# The Journal of the American Medical Association

Published under the Auspices of the Board of Trustees.

VOL. XLVII. CHICAGO, ILLINOIS, DECEMBER 22, 1906. No. 25.


## Original Articles

### TREATMENT OF TUBERCULOSIS OF THE KIDNEY AND BLADDER BY NEPHRECTOMY.*


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It has recently been recognized that tuberculosis of the kidney is much more common than was supposed, and considerable attention has been directed to its treatment by early nephrectomy. In this connection Senn has estimated that one out of every eighteen consumptives suffers from some form of genitourinary tuberculosis; while the Pathologic Institute at Prague, found 5.6 per cent. of renal involvement in autopsies on adult tuberculous patients, and Rillet and Barthez 15.7 per cent. in children.

For a long time it was believed, as taught by Guyon, that the tubercle bacillus seldom infected the kidneys through the blood, but almost invariably ascended through the ureters from the bladder. These views have undergone a radical change and the hematogenous origin is now commonly recognized. For instance, Schéde says: "It has been proved beyond all doubt, and is generally accepted, that the principal mode of infection is through the blood." Clinical experience is furthermore strongly supported by the interesting experiments on animals, made by Baumgarten and others, showing that tuberculous infection in the genitourinary system follows the flow of the secretions, from the testicle toward the prostate and from the kidneys to the bladder. Hence, there are two entirely separate systems, with the bladder as a more or less neutral point; it being seldom, if ever, the seat of primary infection, although it is frequently involved from above, but rarely from below. There is evidence, however, that when the bladder has once become infected, either from above or from below, danger exists of the disease ascending to a sound kidney; but it is difficult to see how this could occur except in rare instances of vesical and urethral dilatation from obstruction to the outflow of urine.

It has often been claimed that cases of ascending and descending infection can be differentiated by noting the points at which the tuberculous process has reached the greatest development. It must be understood, however, that this could only be determined by an operation or an autopsy; because advanced renal tuberculosis often remains almost without symptoms, while the comparatively slight secondary involvement of the bladder may cause so much suffering as to engage the entire attention of both patient and physician. But even when the parts are open to inspection, it is difficult to reach a reliable conclusion, because the stage of development of a tuberculous lesion does not always depend on its age, as is frequently manifested in the lungs and elsewhere. Besides, it is questionable to assume, as has been done, that infection from the blood always takes place primarily in the parenchyma of the kidneys; for it may occur in the pyramids or even in the pelvis. And if infection did appear first in the outer portion of the kidney, the lesion might remain insignificant or even disappear, while lesions lower down, in the pyramids, pelvis, ureter or bladder, were more progressive.

Renal tuberculosis is at first often unilateral—in 90 per cent. of the cases as estimated by Israel, while others place the proportion still higher. This, like so many other recent additions to pathology, has been learned at the operating table rather than in the postmortem room; for by the time a case comes to autopsy the second kidney may have become infected through the blood, or through the bladder, if you will. Admitting this unilateral origin it becomes clear that the majority of cases can be cured by nephrectomy, if recognized sufficiently early, thus adding one more to the heavy diagnostic responsibilities of the modern physician.

The shortcomings of medicine in this heretofore discouraging disease are too apparent to require emphasis. In spite of the fact that with some patients the disease becomes latent for longer or shorter periods, and a few recover, the large majority rapidly pass from bad to worse, with all the suffering incident to renal degeneration and painful harassing cystitis. To be sure, some benefit may arise from residence in a favorable climate, such as that of Colorado, and drugs are perhaps not altogether useless, but reliance on these things is unsatisfactory, to say the least.

The accumulated evidence of many observers has finally demonstrated that early nephrectomy, before involvement of the bladder occurs, is the best treatment for unilateral renal tuberculosis, provided the general condition of the patient will permit. We can not even afford to temporize too long with what appear to be mild or incipient cases, because we can not be sure of the extent of the disease from the symptoms. Even the appearance of the urine is unreliable, because it depends on involvement of the renal pelvis, which may occur only after considerable destruction of parenchyma has taken place. I have been strongly impressed with this in my own cases, in one of which (Case 8) a large parenchymatous abscess existed, together with numerous scattered tubercles, in the presence of apparently normal urine. Furthermore, it is in the early stages of the disease that the most brilliant operative results are achieved.

Tuberculosis elsewhere, if not too far advanced, is not a contraindication to operation, because improvement often results. Especially is this true of the bladder, which may get better or recover, even in bad cases, after the removal of the source of infection, as has occurred frequently in my own experience. This is sim-

* Read at the Salt Lake Meeting of the Western Surgical and Gynecological Association, Sept. 1, 1906.

ilar to what may take place following castration, when the bladder trouble has ascended from the testicle.

It may even be said that the first step in the treatment of a tuberculous bladder, when the disease has descended from a kidney, should be a nephrectomy, when possible. Without operation, all efforts at treatment are generally unsuccessful, while with it improvement, at least, may be confidently expected.[1] An extreme instance in point is reported by Kümmell, in which there coexisted tuberculosis of both testicles, both seminal vesicles, the bladder and both kidneys, together with a tuberculous periurethral abscess, the patient suffering great pain and prostration. Most of the actual difficulty seemed to center in the left kidney, and this was removed. Immediately a marked improvement took place, so that the patient was relieved and was able to return to his work. It must not be forgotten, however, that tuberculous disease of the bladder is often only apparent, as a reflex from the kidney or a result of irritating discharges. So deceiving is this, that operations on the bladder have frequently been done by mistake.

The one essential to be kept constantly in view is that the second kidney must be sound, as regards both function and tuberculosis. This can easily be determined in most cases by the various means now at our disposal—the Harris segregator, the catheterizing cystoscope, and the different ways of determining excretory capacity; although the last mentioned methods have not proved to be as reliable as could be wished, in fact, so experienced an authority as Rovsing has seen fit to discard them entirely. Occasionally, it may be necessary to make an exploratory lumbar incision as in two of my cases (Cases 11 and 14), or even to take some chances when there is great urgency.

The weight of evidence is against partial nephrectomy, however enticing it may seem in theory, for it is impossible to be sure that all the disease has been eradicated. My own limited experience has impressed on me the extreme difficulty of detecting the small and widely scattered foci which frequently exist. Nevertheless, it is interesting to note that Morris sucessfully excised a tuberculous focus from the kidney of a woman whose other kidney had previously been removed for the same disease.

Nephrotomy is never indicated except for the purpose of relieving great suffering in those who for some reason can not undergo nephrectomy. A cure can not be expected, and a troublesome urinary sinus nearly always results.

## CASE REPORTS.

I have operated on only 14 cases for renal tuberculosis, but these seem to illustrate and emphasize some important points.

Case 1.—Mr. S., aged 33, with a history of incipient phthisis, had suffered for four years with frequent attacks of more or less severe abdominal pain centering in the region of the appendix, accompanied with frequent urination and a burning sensation at the end of the penis. He had lost much in weight and energy.

*Examination.*—The watery urine was cloudy with pus, and contained red blood corpuscles and albumin. No tubercle bacilli were detected. The Harris segregator revealed normal urine from the left kidney and cloudy urine from the right. The diagnosis before operation was tuberculosis of the kidney or possibly stone.

*Operation.*—A nephrectomy was done Aug. 12, 1889, at St. Anthony's Hospital. The kidney was markedly tuberculous, with cavities and nodules and ulceration of the pelvis. Recovery was uneventful, except that a sinus persisted for nearly a year, its closure being assisted by the use of the electrocautery.

*Postoperative History.*—The urine soon became clear and normal and has remained so to the present time, a period of seven years. There have been no urinary symptoms of any kind, the patient considering himself in this regard perfectly well. About two years ago a psoas abscess developed on the right side, but disappeared spontaneously.

As a matter of interest merely, a surgeon of standing had made all arrangements to operate on this man for appendicitis, being misled by the location and character of the pain.

Case 2.—An emaciated boy, aged 10 or 11, with no tuberculous history, had been treated by a surgeon for cystitis for many months. The existence of pain and tenderness along the left ureter and under the ribs called attention, however, to the kidney. There was blood and pus in the urine, although no tubercle bacilli could be found.

*Operation.*—With a diagnosis of either tuberculosis or stone, a nephrectomy was done Aug. 24, 1899, at St. Anthony's Hospital. The kidney contained a large caseous focus and several smaller foci, together with numerous tubercles and considerable ulceration of the pelvis.

*Postoperative History.*—Recovery was prompt as regards the wound in the loin, but the trouble in the bladder and ureter persisted for some months. An examination at the end of 2½ years revealed a fat, healthy, strong boy with perfectly clear and normal urine. The boy committed suicide 3½ years after the operation. His condition remained good up to that time. Whether the suicide was in any way connected with the nephrectomy it is impossible for me to say.

Case 3.—Mr. C., aged 30, had incipient phthisis, which was latent for 11 years. For several months he had been bothered with frequent urination and iritation of the neck of the bladder.

*Examination.*—There was watery urine, cloudy with pus, and containing tubercle bacilli. Loss of weight and strength had occurred. There was no tenderness or pain over the ureters or in the region of the kidneys. After careful washing of the bladder, the urine collected in a few minutes was found to contain the usual quantity of pus, and hence it was concluded that the trouble lay in one or both kidneys.

*Operation.*—The use of the Harris segregator demonstrated disease of the right kidney, which was accordingly removed Nov. 10, 1902, at St. Joseph's Hospital. In spite of the absence of local symptoms the disease involved the pyramids in large areas. There was ulceration of the pelvis and a cavity in the parenchyma as large as one's thumb filled with grumous material. There were also numerous isolated tubercles.

*Postoperative History.*—A sinus persisted in this case for nearly two years, although for the greater part of the time it annoyed the patient but little. He is now perfectly well at the termination of three and three-fourths years, with clear urine and no bladder symptoms whatever. He has gained much in weight and energy. About a year ago, however, he developed tuberculosis of the right testicle, necessitating castration.

Case 4.—Mrs. S., aged about 30, had lost much flesh and was very sick and weak. As she was unable to speak English, no clear history could be obtained.

*Examination.*—There was much pus in the urine, but no tubercle bacilli could be found. The bladder was tender and painful and bled easily on introduction of a catheter, which indicated ulceration. A large kidney could be felt in the left loin. An attempt to segregate the urine was unsatisfactory because of pain and hemorrhage.

*Operation.*—In spite of this, nephrectomy was done on Jan. 20, 1903, at St. Joseph's Hospital, because demanded by extreme suffering and marked sepsis. The diagnosis was stone or tuberculosis. The kidney was fully twice its normal size and filled with pus cavities, caseous masses and tubercles in all stages of degeneration—local disseminated tuberculosis. There was much ulceration of the pelvis. Following the operation no urine was passed and the patient died of uremia on the eighth day. No autopsy could be obtained, but it is fair to presume that but one active kidney had existed.

Case 5.—Miss Van L., aged about 25; no tuberculous history. She had been afflicted for a year with irritation of the bladder accompanied at times with pain and tenderness along

1. This in face of the dictum of Morris that involvement of the bladder is almost a contraindication to nephrectomy.

the left ureter and in the region of the corresponding kidney.

*Examination.*—There was abundant watery urine, cloudy with pus, containing at times considerable blood. Tubercle bacilli were present in abundance. Segregation gave clear, normal urine from the right side and purulent urine from the left. The woman had been treated for a number of months for simple ulceration of the bladder without improvement.

*Operation.*—Nephrectomy was done April 21, 1903, at St. Joseph's Hospital. The kidney contained two abscesses, the larger the size of a walnut, filled with watery pus and cheesy masses. Tubercles were scattered about the organ.

*Postoperative History.*—A sinus persisted for about one year but finally closed. Her general condition improved rapidly and she gained much in energy and weight. The irritability of the bladder improved also, but did not entirely disappear, although it ceased to be a source of much annoyance. The urine at the end of about 18 months was still a trifle cloudy, although much less so than formerly, showing a decided gain in the diseased condition of the bladder. The patient is now apparently perfectly well at the end of 3¼ years.

Case 6.—Mr. H., aged about 30, had mild form of phthisis. For many months he had experienced severe pain in the right side, perineum and end of the penis. He had lost much flesh and energy and was compelled to urinate very frequently.

*Examination.*—The watery urine contained but little pus and no tubercle bacilli could be found.

*Diagnosis.*—Tuberculosis of kidney and prostate.

*Operation.*—In conjunction with the late Dr. Munn, a nephrectomy was done July 14, 1902, at St. Joseph's Hospital. Several abscesses of the kidneys were found, together with numerous tubercles, although there was no apparent ulceration of the pelvis, thus accounting for the scarcity of pus in the urine. A tuberculous abscess of the prostate was also opened and curetted. The pedicle of the kidney was tied with silk ligatures, which had to be removed from the bottom of the sinus at the end of about nine months, the sinus then closing after remaining open nearly a year. The patient is now, at the end of four years, in excellent health and strength with normal urine and no bladder symptoms.

Case 7.—Mrs. B., aged about 50, with no tuberculous history, was emaciated and weak. Five years ago she experienced a severe pain along the left ureter. From this she recovered, except occasionally slight pain and tenderness, until several months ago, when irritation and pain began in the bladder, followed by chills and high fever. A large tumor appeared in the left flank, tender and solid.

*Examination.*—Segregation revealed pus from the left side and clear urine from the right, which later contained a great number of granular and hyaline casts and some albumin. No tubercle bacilli were found.

*Operation.*—On account of a scanty secretion of urinary solids, together with other evidences of nephritis in the second kidney, it was deemed unwise to give a general anesthetic, so a number of nephritic and perinephritic abscesses were opened under local anesthesia. Much relief, however, was not obtained, so on Sept. 9, 1905, at St. Joseph's Hospital, the kidney was removed under nitrous-oxid anesthesia, the operation lasting seventeen minutes. Owing to the great size, friability, and numerous adhesions of the organ, it was necessary to remove it piecemeal, the pedicle being clamped by forceps which were left *in situ*. The parenchyma was studded with tubercles and small abscesses (local disseminated tuberculosis). There were several large pus cavities outside the kidney capsule. In other words, the process had become extensively perinephritic. Recovery from the operation took place, but the patient died in about three weeks from exhaustion and sepsis.

Case 8.—Mrs. D., aged about 30, who had been sick for several months, gradually becoming confined to her bed, had no tuberculous history, but considerable loss of flesh.

*Examination.*—There was a large tumor in the right hypochondriac region extending downward from the liver; tender, but not painful. Temperature was not elevated, and sometimes subnormal. Urine was high-colored and without pus or blood, in fact, normal. Segregation showed an equal secretion from both sides.

The diagnosis was enlargement of gall-bladder.

*Operation.*—Oct. 17, 1903, at St. Joseph's Hospital, an incision was made through the outer margin of the right rectus and the difficulty located in the right kidney. The suprarenal capsule was transformed into a great leathery mass as large as one's entire hand and filled with tuberculous abscesses and separate tubercles. The kidney itself contained a parenchymatous abscess the size of a walnut, together with many smaller ones. The pelvis and ureters were not involved, which accounted for the clear urine. There was also a perinephritic collection of tuberculous pus. The kidney and suprarenal capsule were removed through the anterior incision, which was then closed, drainage being established through the back. Prompt recovery without a sinus resulted, and the patient is still absolutely well, 2 3/4 years after the operation, with possession of her usual weight and energy.

Case 9.—Mrs. B., aged 35, with a history of incipient phthisis, for a number of months had suffered with pain in the bladder, especially when urinating. The pain radiated into the region of the appendix. The urine always contained pus, sometimes in large quantities, as if from the rupture of an abscess. Occasionally blood appeared. Pain and tenderness, of which there was considerable at times, were always in the right iliac fossa, rather high up, so that a diagnosis of appendicitis was made by the attending physician, the pus in the urine being supposed to be due to rupture of an abscess into the ureter. At no time were any of the disturbances referred to the kidney, and its involvement was not even suspected. She was referred to me for operation for appendicitis.

*Examination.*—The use of the Harris segregator revealed pus and blood from the right kidney and normal urine from the left. No tubercle bacilli could be detected. No stone in either ureter or kidney could be seen with the *x*-ray. (Dr. Stover).

The diagnosis was tuberculosis of right kidney with secondary involvement of bladder.

*Operation.*—A nephrectomy was done at St. Joseph's Hospital March 29, 1905. The kidney exhibited a parenchymatous abscess containing about an ounce of pus and unconnected with the pelvis, together with numerous tubercles and two small caseous foci opening into the pelvis. Immediate relief from symptoms was experienced, together with improvement in health and strength. A sinus persisted which opened and closed at intervals. At the end of eight months there was still a trace of pus in the urine. Now, at the end of 1 1/3 years, the patient is enjoying excellent health and strength and is attending to all of her duties. There are no urinary disturbances. The sinus still opens slightly at intervals, discharging a drop or two of pus.

Case 10.—A woman, aged about 45, was seen in consultation with Dr. C. K. Fleming. There was no tuberculous history.

*Examination.*—There was pus and blood in the urine and considerable vesical pain and tenderness. The emaciation of the patient rendered it easy to palpate the tender and enlarged right kidney. Tubercle bacilli were present. Segregation demonstrated that the left kidney was normal in function.

*Operation.*—A nephrectomy was done by Dr. Fleming at St. Anthony's Hospital, the wound healing without the formation of a sinus. The enlarged kidney was filled with abscesses, caseous foci, and scattered tubercles. The patient gained remarkably in health and flesh, and now at the end of about six years is in excellent condition.

Case 11.—A man, aged about 35, had a mild form of phthisis.

*History.*—For more than three years he had suffered much from inflammation of the bladder. The attention of everyone concerned had been so strongly concentracted on this organ that a few vague pains over the ureters and kidneys of both sides were completely overlooked, the patient being able to recall them only after close questioning. Some months previously a surgeon had established a suprapubic fistula of the bladder, without much benefit resulting. Tubercle bacilli could not be found in the urine. A diagnosis of tuberculosis of the kidney was made, and supported by obtaining very cloudy urine shortly after a thorough washing of the bladder.

*Operation.*—It being impossible either to segregate the urine or catheterize the ureters, it was decided to explore both kidneys, which was accordingly done without difficulty at St.

Joseph's Hospital, May, 1905. Unfortunately, both organs were found in an advanced stage of tuberculous disease, with a number of abscesses manifesting themselves as soft areas on the surface, hence nothing further was attempted. The wounds healed promptly by first intention. In the course of about two months the patient died of exhaustion without relief from any of his symptoms.

Case 12.—Miss B., aged about 25, gave a history of incipient phthisis.

*History.*—For two years or more she had been afflicted with cystitis, which for many months had been so severe as to confine her to bed during most of the time. The urine was filled with pus and blood. So much irritation of the bladder existed that the urine had to be passed every few minutes—a condition amounting almost to incontinence. Some time previously an abscess had presented itself in the right loin in connection with the kidney, which was incised by the attending physician, a sinus resulting which continually discharged pus and urine. No tubercle bacilli could be detected after repeated examinations. It had to be assumed that the left kidney was sound, as it was impracticable to use either the segregator or the cystoscope and the patient's condition scarcely permitted operative exploration.

*Operation.*—A nephrectomy was done, Nov. 13, 1905, the wound slowly healing without the formation of a sinus. The adhesions were so great that it was necessary to shell the kidney from its fibrous capsule. The organ contained tubercular and tuberculous abscesses.

*Postoperative History.*—At the end of about two months the wound was healed and the patient up and able to retain the urine from one to two hours. In eight months her condition was very satisfactory. She was able to retain her urine for long periods, although a slight irritation of the bladder was still present. Her flesh and strength had been regained and she was able to resume her social and other duties.

Case 13.—Mr. H., aged 29, had advanced pulmonary tuberculosis, and a tuberculous nodule in the right epididymis.

*History.*—There was much vesical pain and tenderness and the urine was filled with pus and blood. Kidney symptoms were entirely absent until shortly before he came under observation, when some pain appeared along the left ureter. Segregation showed an abundance of pus from each side, and the idea of operation was discarded. The symptoms, however, rapidly increased, the temperature going as high as 104, accompanied by great suffering in connection with the bladder and left kidney, making the presence of a severe mixed infection certain.

*Operation.*—On March 21, 1905, a left nephrectomy was done, not with the idea of obtaining a cure, but for the relief of suffering only. The organ was riddled with abscesses and studded with tubercles and caseous foci. Drainage was instituted and a sinus resulted. Relief from the harassing symptoms was marked and the patient remained in comparative comfort until the time of his death from pulmonary disease some four months later.

Case 14.—Mr. H., aged 18, was seen in consultation with Dr. C. K. Fleming. No tuberculous history. About two years ago, following a friendly wrestling match, blood was passed in the urine, and again some three months later. Gradually pus appeared with severe cystitis, but at no time were there any renal symptoms, and the disease of the kidneys remained unsuspected by his numerous physicians. No tubercle bacilli could be detected after repeated examinations. After irrigation of the bladder the urine obtained in the course of half an hour was found to be very cloudy with pus, thus indicating the involvement of one or both kidneys. Owing to the lesions in the bladder, however, neither the segregator nor the cystoscope could be used to any advantage, even under an anesthetic, hence operative exploration of both kidneys was decided on.

*Operation.*—This was done Jan. 21, 1906, at Mercy Hospital, by Dr. Fleming and myself. The right kidney proved to be healthy while the left contained several abscesses and a number of scattered tubercles. A nephrectomy was at once done, which proved to be so difficult, on account of a short pedicle, that resection of the last rib had to be resorted to in order to gain sufficient room.

*Postoperative History.*—At the end of seven months the patient was much improved as regards both bladder and general condition, and although the sinus still persisted it was very small and annoyed him but little. The vesical symptoms had become comparatively mild and the amount of pus in the urine much reduced.

A résumé of these fourteen cases shows seven males and seven females. Ten were in middle or early adult life, when most cases are found; one was 50 years of age; one 45; one 18 and one 10.

There were no operative deaths. One patient died of uremia, eight days after the operation, and one died of exhaustion and sepsis at the end of three weeks. Both of these were desperate cases in the later stages of the disease, and the patients were exhausted by long suffering and protracted sepsis. Had they been operated on earlier the results might have been different. A third patient committed suicide 3½ years after the operation. Up to that time the urinary apparatus had been in perfectly good condition. I have been unable to trace any connection between the operation and the act of self-destruction. A fourth died of pulmonary consumption about four months subsequent to the operation, having been largely relieved of his urinary symptoms, for which purpose alone the nephrectomy was done. A fifth died in two months of exhaustion incident to advanced tuberculosis of both kidneys. In this case a nephrectomy was not done, only an exploratory operation.

This leaves 9 cases living at the present time: One at the end of 7 years; one at the end of 6 years; one at the end of 4 years; one at the end of 3¾ years; one at the end of 3¼ years; one at the end of 2¾ years; one at the end of 1¼ years; one at the end of ¾ of a year; one at the end of ½ a year.

Eight of these patients are well as far as urinary symptoms are concerned, as was also the patient who committed suicide at the end of 3½ years, although all of them had more or less marked bladder symptoms at the time of operating, leading to a diagnosis of tuberculosis of the bladder as well as of the kidney.

One patient operated on half a year ago still has pus in the urine, but the general and local conditions have undergone marked improvement. Seven patients developed fistulas in the loin lasting from a few weeks to a year or more. Such fistulas are tuberculous and arise from the divided end of the infected ureter. Hence, theoretically, it would be wise to remove the entire ureter down to the bladder, as practiced by Kelly and Hunner. Practically, however, this is not usually advisable, as it increases the extent and danger of the operation; which fact is of importance in any nephrectomy, on account of the welfare of the second kidney, and is especially so in patients weakened by tuberculosis of the genito-urinary tract. These fistulas almost always disappear in time, although they often persist for many months. They are not frequently very annoying. It is, nevertheless well to remove as much of the ureter as possible, cauterize its lumen, and fasten the stump in the lower angle of the wound, where it can be treated later, if necessary.

In spite of careful search, no tubercle bacilli could be detected in eleven out of the fourteen cases; this low proportion being due, perhaps, to the search not being sufficiently persistent. Inoculation of animals was not employed. In six patients a history of a mild form of phthisis could be obtained which was more or less latent when the kidney complications developed. In six others there was no such history. In one, severe pulmonary lesions existed. In the remaining case no history was

obtained. In some instances it was only with the greatest difficulty that the patient was made to recall the evidence of a previous involvement of the lung; so that it is, perhaps, fair to assume that others may have had mild forms of tuberculosis which had escaped their memories altogether, especially as most people are glad to forget such occurrences. My own limited experience would lead me to believe that it is in the mild cases of phthisis with a tendency to latency, that kidney involvement is most likely to occur. Or, is it that people with advanced phthisis are not apt to pay much attention to their kidneys?

CONCLUSIONS.

1. Tuberculosis of the urinary tract very often begins in the kidney, attacking the bladder secondarily.
2. It is usually at first unilateral.
3. Medical or climatic treatment is unsatisfactory in most cases.
4. The ideal treatment is early nephrectomy, provided there is one sound kidney.
5. Tuberculosis elsewhere, unless far advanced, is not a contraindication to operation.
6. Tuberculosis of the bladder derived from one kidney is positively benefited by nephrectomy and can seldom be cured without it.
7. The demonstration of tubercle bacilli in the urine often fails.
8. The removal of the ureter is not ordinarily indicated. If sinuses result, they nearly always heal in time.

## KERATOSIS OBTURANS.*

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The formation of epithelial plugs of considerable size must be counted among the rare diseases of the ear. In my practice, private and hospital, extending over more than a quarter of a century, I have met with only two cases. The literature of the subject also confirms their rarity. They would appear to be allied in nature to cholesteatomata, described by Mueller and Virchow as pearl tumor, possessing a well marked wall with contents of hornified or epidermized cells arranged in layers like an onion. The same description applies to the tumor described by Habermann as occurring in the mastoid antrum, many examples of which are recorded. In the cases which I report there did not appear to be any middle ear involvement in so far as epithelial growth was concerned, though there was a history of previous suppurative trouble in both. Further, the removal of the growth from the external auditory canal entirely relieved the symptoms. According to Brühl and Politzer desquamative inflammation of the external auditory canal is either idiopathic or the result of chronic hyperemia. Microscopically the epithelial layer is found to be atrophic and the stratum corneum thickened; the latter is covered with successive wavy layers, consisting of large polygonal horny cells of squamous epithelium without nuclei. In places the cuticle shows round-cell infiltration. The hair follicles are dilated and filled with horny cells.

In one of these cases the growth was of many years' duration and was attended by mental symptoms, loss of memory, difficulty in fixing the attention and following a train of thought, all of which were relieved by the removal of the growth. Ear cough was also present. The other case presented some of the symptoms of acute mastoiditis except that the pain was referred chiefly to the temple and anterior wall of the canal. There was tenderness of the mastoid, but little or no swelling, and an absence of that sickening pain produced by deep steady pressure. In one case the course was exceedingly slow, in the other, acute.

CASE REPORTS.

CASE 1.—*History.*—J. C., aged 45, farmer, consulted me Oct. 3, 1895, for deafness of long standing. He did not remember when he had heard well with his left ear. Of late there had been some pain, tenderness, and a feeling of weight in the ear.

*Examination.*—The ear was apparently filled with wax. Hearing: H. R., 20/40; H. L., pressure.

*Treatment.*—After syringing for some time without much effect, patient was given a solution of soda bicarbonate and instructed to go home, fill the ear, soak it thoroughly, and return next day. He did so and again the ear was syringed to little effect. Peroxid of hydrogen was given with instructions to use it frequently. This and syringing were continued for five days, little coming from the ear save small masses of epithelial scales, when a larger plug appearing to be loose I moved it with forceps.

I continued to do this for three or four days more, when the remains of the drumhead came in view. It was ulcerated, as were the walls of the canal in places. The bony canal was dilated to double its normal size. The parts were irrigated with weak bichlorid solution and swabbed with 2 per cent. solution, nitrate of silver, and healed readily.

The mental symptoms of which he complained, giddiness, loss of memory, difficulty in fixing the attention, and dulness, were completely relieved.

CASE 2.—*History.*—B. F., aged 36, clerk, had acute suppuration following scarlatina, twenty years ago. He made a good recovery, but from time to time during the intervening years he was subject to acute or subacute attacks of inflammation of the middle ear. On Jan. 11, 1906, he presented himself, complaining of what seemed to be a threatening attack of mastoiditis. He had severe pain in the region of the mastoid, redness, but no considerable swelling. The pain was referred to the middle ear and anterior wall of the external auditory canal rather than to the mastoid itself, and was worse at night. The parts were very sensitive to the touch, but the severe sickening pain produced by deep pressure over the mastoid, common in mastoiditis, was absent.

*Examination.*—The external auditory canal appeared to be plugged with wax, which syringing did not remove.

*Treatment.*—Any attempt to remove the plug with forceps and curette was attended by so much pain that I was forced to desist. Leeching and douching with hot solutions of bichlorid of mercury were ordered. The pain was controlled by ovoids of cocoa butter, each containing 1 gr. of opium. Temperature ranged from 99 to 102, with an evening rise. These symptoms continued for several days and I had about concluded to open the mastoid when the symptoms ameliorated. The following day considerable masses of epithelial scales came away and a loose mass lying in the external auditory canal was removed with the forceps. The walls were dilated and denuded of epithelium in places, as was the drumhead. Under continued douching and local application of nitrate of silver the parts healed. Hearing, H, 2/40.

Apart from the formation of an immense epithelial plug this case is interesting from the presence of symptoms so analogous to mastoiditis that a diagnosis was difficult. The fact that the anterior wall of the canal was swollen and tender as well as the reference of the pain to the middle ear and the absence of swelling of the mastoid, together with the absence of bulging of the wall of the canal, made me hesitate to operate, and the result justified my delay.

* Read in the Section on Laryngology and Otology of the American Medical Association, at the Fifty-seventh Annual Session, June, 1906.

DISCUSSION.

Dr. A. E. Crockett, Boston, said that most of the cases he has seen have been secondary to a suppurative process in the middle ear. He recalled one patient who had recurrent keratosis filling the canal and completely denuding the periosteum from the inner wall; recurring about once in two years. So far as his experience goes, the disease has been difficult to handle because it is difficult to remove the plug, and the slightest manipulation is exquisitely painful to the patient. He has been accustomed to rely on the hook known as the stapes hook, rather than syringing. He mentioned an unfortunate case at the Boston Eye and Ear Infirmary which was syringed for a long time, the plug swelling instead of being removed, and in which there was infection and swelling of the plug, and mastoid disease resulted and also a posttonsillar abscess. Ever since he has been afraid to syringe unless he was sure that he could remove the plug at one sitting.

Dr. C. J. Blake, Boston, said that one feature in connection with these epithelial plugs, the keratosis obturans of Wreden, is the lardaceous degeneration of the center of the epidermal plug. Such a plug is hard to deal with, the lardaceous mass offers no hold for forceps or hooks, and it is difficult to peel away the firmer epidermis from the wall of the canal. Under these circumstances the conversion of the lardaceous center of the plug into soap by applying caustic potash on a cotton-tipped probe works well. The external auditory canal, on the hither side of the plug, should be smeared with oil, the cotton-tipped probe with the potash put into the center of the mass, the resultant soap syringed out and this repeated until the lardaceous core has been removed. It is then easy to break up the epithelium with forceps to extract it.

## ACUTE AND CHRONIC SUPPURATION OF THE EAR AND NOSE THE DIRECT CAUSE OF FACIAL ERYSIPELAS.*

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SAN FRANCISCO.

1. Why should we have erysipelas especially confined to the face?

*a.* Because it is nearest the seat of infection.

*b.* Because the secretion of pus produces an abrasion of the mucous membrane or skin and then an inoculation follows.

*c.* The inoculation is also made by the handkerchief, but I think more particularly by the finger.

C. W. Major[1] reports 4 cases of facial erysipelas in which he says he thinks that the erysipelas was dependent on pathologic conditions of the nose. In 3 there was hypertrophic rhinitis; in 1, a child, chronic congestion. O. J. Stein[2] reports a case of suppuration of the antrum of Highmore followed by an attack of erysipelas, and says that many cases of erysipelas are due to unrecognized nasal conditions. Jannson,[3] in an extensive article, claims that erysipelas originates from various inflammatory conditions of the nasal mucous membrane. Howard[4] reports a small abscess in the nose as the cause of erysipelas. I have 3 such cases. Marcier and Bellevue[5] report a case of acute empyema, which was followed by facial erysipelas in a few days. They say that they believe it was due to the inflammation of a sinus. In a discussion of the former case, Bessonnet states that he has seen erysipelas follow acute rhinitis.

Coakley[6] believes erysipelas is rarely a primary affection, but is usually secondary to erosions of the face, the necrosis of the ethmoidal labyrinth. In the transactions of the American Laryngological Association, 1903, page 72, J. H. Falow speaks of erysipelas originating from nasal affections. Dr. Able Johnson, San Francisco, has seen 4 cases of erysipelas in European clinics. In 2 he was able to demonstrate pus in the nose; 2 followed surgical interference, 1 for extensive removal of polypi accompanied by pus, one following the removal of the inferior turbinate in which pus was not demonstrated. Dr. Albert Houston, San Francisco, has seen 2 cases follow surgical operation of the nose for the removal of polypi. In the Vienna Nose and Throat Clinics I have seen 3 cases of erysipelas develop while the patients were under treatment. The interval between these cases was long. I do not remember whether pus was present or not.

von Bergman and Buel[7] say that erysipelas is occasionally seen after operations on the face, and that with modern technic it has not been entirely banished, as in injuries; the infection is derived from opening the facial cavities with their chronic inflamed mucous membranes. J. A. White[8] reports a case of mastoid operation that was followed in eight days by erysipelas. H. Holbrook Curtis, discussing White's paper, said he had a similar case. Charles W. Richardson, in the same discussion, reported 3 cases, but considered it was from severe scrubbing of the operative field, as in all his cases the inflammation began outside of the operative area.

Vacher[9] reports a case of acute otitis of two weeks' standing, which was followed by erysipelas and a mastoid operation later. I am personally familiar with 1 case of erysipelas following a mastoid operation in a brother practitioner in San Francisco. I also observed 3 cases of erysipelas following mastoid operation, 1 in Halle and 2 in Vienna.

2. Why should we have more than one attack of facial erysipelas?

*a.* Because the source of infection is practically never eliminated without operation.

*b.* The reason erysipelas follows operations is explained by the fact that you open a field for direct infection.

Luc[10] reports operating a case of empyema of the antrum of Highmore, which was followed by erysipelas. This patient had facial erysipelas with abscess formation nine months before the nasal affection was diagnosed. Hajek[11] reports the case of a patient with empyema of the antrum of Highmore who had had facial erysipelas once a year for the last five years. Two years following operation the patient has not had an attack.

Hall and Tilly[12] state that in cases of recurrent erysipelas of the face the pharyngeal tonsil was apparently the starting point of the disease, and add that it is well known that the nose especially when affected by chronic rhinitis frequently gives rise to facial erysipelas. Mc-

* Read in the Section on Laryngology and Otology of the American Medical Association, at the Fifty-seventh Annual Session, June, 1906.

1. Med. Jour., New York, 1889, p. 148.
2. Chicago Med. Rec., 1899, xvii, p. 308.
3. Forhandl. v. Nord. Kong. f. inv. med., Stockholm, 1896, i, p. 62.
4. American Practice and News, Louisville, 1887, No. 3, p. 262.
5. "Un cas d'Erysipele de la Face d'Origine Sinusienne," La Poriou Med., Porters, 1903, xviii, p. 241.
6. "Diseases of the Nose and Throat," New York and Philadelphia, 1901.
7. "System of Surgery," i.
8. Laryngoscope, St. Louis, 1904, iv, p. 680.
9. La Presse Oto.-Laryng., Belge, Brussels, 1904, iii, p. 13.
10. La France Médicale, 1891, xxxviii, p. 307.
11. "Krankh. der Nasen holen," 1903
12. "Diseases of Nose and Throat," London, 1901.

Bride[13] says that erosions about the nostrils are the point of entrance for erysipelas poisons, and quotes Moldenhausen, who claims this condition is found in most cases of recurrent erysipelas.

In my private practice I have elicited the histories of four patients with recurrent attacks. In one case of chronic suppuration from both ears of fifteen years' duration, there were four attacks of erysipelas, always starting about the ear. Two patients had chronic discharge from the nose for many years, with empyema of the antrum of Highmore on one side and three attacks. One patient had chronic discharge from both nostrils for many years, empyema and polypi of the ethmoidal cells, and two attacks.

3. Why do we usually find erysipelas associated with suppurative processes of the ear and nose?

Because the source of infection is nearly always present.

My personal belief is that it is always present, but at times it is very difficult of diagnosis. To illustrate the point in question I recall a case of extensive disease of all the sinuses of one side of the head without anything showing at all in the nose. There was a perforation of the orbital wall and a fistulous formation at the outer angle of the eye. There was about a pint of pus in the immediate neighborhood. The antrum of Highmore was so extensively diseased that it extended to the median line of the hard palate and was full of polypi. Cutting away the floor of the nose we were directly in the antrum. I have not always been able to demonstrate pus, but it is my belief that it is present, but hard to find. This is especially so in the latent forms of empyema.

4. Why should this not be accepted as a fact when streptococci can be demonstrated in the secretion, or is it absolutely necessary to demonstrate the presence or absence of the same?

When streptococci can be demonstrated in the secretion of the ear or the nose in mixed or pure infections, I think it should be considered an established fact that the erysipelas is dependent on the same. Should you find the diphtheria bacillus present in the nose and later find a membrane in the throat that had been tested before, you would assume that it was due to direct inoculation. I think the same principle can be applied to this condition. I further think that it is absolutely necessary to demonstrate the streptococcus in mixed or pure infections to prove this theory of mine.

5. Why is it that 82 per cent. of facial erysipelas starts from the angle of the nose?

*a.* Because the secretion produces an excoriation which leaves a direct course for inoculation.

*b.* Through repeated cleansing of the nose with the handkerchief or otherwise an abrasion is produced which leaves a point of inoculation.

*c.* Because this streptococcus is the most virulent of germ infections and will propagate where others would have perished.

G. W. Spohn[14] collected 1,000 cases of erysipelas; 900 were confined to the face. The point of inoculation for the facial was as follows: 737 angle of the nose, 90 about the mouth, 60 about the ear, 7 about the eye, 3 about the cheek bone, 3 in the scalp. The author further states that careful examination will reveal the fact that nearly all cases of facial erysipelas have had a previous nasal catarrh.

6. Why is it that every case of streptococcus infection of the ear and nose is not followed by erysipelas?

I answer this by asking the question, Why is it that every case of infection of Klebs-Loeffler bacillus is not followed by diphtheria, the pneumococcus not followed by pneumonia, etc.? I think they all depend on a similar condition, that of immunity. In operative cases (mastoid operations particularly) under strict antiseptic precautions, the streptococci are so disturbed or crippled that their virulence as an infecting agent has been largely destroyed and erysipelas[15] much less likely to follow.

AUTHOR'S INVESTIGATION.

Through the kindness of Dr. Langley Porter, in charge of the contagious diseases at the City and County Hospital, San Francisco, I have been able to make a personal examination of some 60 cases of facial erysipelas. During the two years' investigation along this line there was not a case of erysipelas that was not confined to the face or head.[15] I had arranged an elaborate chart to show age, sex, nationality, hygienic surroundings, number of attacks, point of inoculation, condition of the ear and nose prior to, during and following attacks, bacteriologic nature of the erysipelas infection, bacteriologic nature of the secretion from the ear and nose, contagion in the family, contagion in the hospital, but I am sorry to say that the fire destroyed all the histories, so I will have to report what I can from memory.

All the patients were over 20 years of age, largest number between 25 and 35. There were more males than females. As to the nationality, it was pretty well distributed. The hygienic surroundings in most cases were not good. Eight patients had more than one attack and pus was always demonstrated in their cases. Each attack was with apparently less severity. The point of inoculation in a large majority of cases was about the nose. I should say that more than 90 per cent. complained of nasal affections accompanied with a discharge. In 60 per cent. of the whole number of cases I demonstrated pus in the ear or the nose. I am very much indebted to Dr. Henry H. Lissme, assistant in the contagious department, for his work in my behalf from a bacteriologic standpoint. The bacteriologic nature of the cases of erysipelas examined (probably 30) demonstrated streptococci alone. The bacteriologic findings from the secretions of the ear and nose (probably 12 examined) usually showed mixed infections, streptococci always present. Most of the patients were lost track of as soon as they recovered from their erysipelas, probably 12 returned for subsequent treatment, and in all these pus was easily demonstrated; most of them were operated on. None had erysipelas following the operation or since. There was not a single case of contagion at the home of the patient or at the hospital. Four patients had lacerated or contused wounds about the face. In one I was able to demonstrate pus. One had such a complete deviation of the septum that the middle meatus and the olfactory fissure could not be seen at all. The other two were negative. Three patients had perforation of the septum with granulation tissue about the perforation; the only source of pus that could be demonstrated. Three patients had small abscess just within the nose, which I attributed as the cause. One patient had an abscess of the septum accompanied by discharge of pus from the middle meatus as well. I do not believe this was the nature of an erysipelas, but simply an abscess of streptococcus origin; in fact, I have not

13. "Diseases of Nose and Throat," Edinburgh, 1900.
14. Detroit Medical Journal, 1904-5, iv, p. 361.

15. This statement is not absolutely correct, as there were some cases of erysipelas of the extremities due to wound infections.

seen an inflammation of the nose or the throat that can be likened to the erysipelas of the face.

So, in conclusion, I say that we have sufficient evidence to assume that erysipelas of the face is due to a direct infection from a contaminated field of pure or mixed infections of streptococci; that in the majority of these cases the infection can be demonstrated, and those that are not demonstrated are probably present and are not found; that the epidemics of erysipelas are nothing more than a direct wound infection through surgeons or nurses; that the so-called idiopathic erysipelas is a misnomer. As to why we should not have erysipelas with every case of streptococcus infection I believe to be dependent on the character of the streptococci and the immunity of the patient. I also believe that the streptococci attain a more virulent form when one of the various cavities is infected.

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DISCUSSION.

Dr. J. W. Farlow, Boston, said that he has seen a number of such cases. One patient, a man about 40, suffered for several years from repeated attacks of facial erysipelas which incapacitated him from work. Treatment of an erosion of the septum restored him to perfect health, and he has had no erysipelas since. A patient, aged 50, had several minor attacks of facial erysipelas, beginning on the side of the nose and also two very severe attacks. Treatment of the bloody erosion of the septum has prevented any further attack for three years. A woman, aged 40, had a similar experience, one attack being very severe. Complete success resulted from cure of the septal erosion. A woman, aged 84, had an attack of facial erysipelas, with temperature of 103 F., and a tendency to coma. Dr. Farlow washed out the nose, treated an erosion of the septum and the next day the temperature was nearly normal. She soon recovered and is still living. In the light of such experience Dr. Farlow strongly advises the routine examination of the nose in all cases of facial erysipelas in order to determine whether the interior of the nose is the portal of entrance of the infection.

Dr. H. P. Mosher, Boston, said that at the Massachusetts Charitable Eye and Ear Infirmary the greatest number of cases of facial erysipelas occur in the spring. Since this is so, Dr. Mosher asked if it would not be a good thing to isolate every case of mastoid operation for a few days until it is determined whether or not erysipelas will result. It is unfortunate to have a case of erysipelas develop in an open ward. Routine examination of the nose in cases of erysipelas has been the custom at the Massachusetts General Hospital for years. The dermatologists always send their erysipelas patients to the Eye and Ear Infirmary for examination of the nose.

Dr. John O. Roe, Rochester, N. Y., said that his observations coincide entirely with those of Dr. Mosher; he also has had many more of these cases during March and April than during any other months in the year. So much more frequent are they in March and April that in all nasal operations performed during these two months he always takes extra precautions to guard against all possible infections from every source.

Dr. Cullen F. Welty, San Francisco, in regard to erysipelas following mastoid operation, said that the more thorough the investigation along this line the more clear it is that the underlying cause is never entirely eliminated so long as the streptococci are present. The reason every case is not followed by infection is dependent on immunity and individual susceptibility. A few years ago Dr. Welty was in Boston, he was a guest of Dr. Blake at the Ear Infirmary. They had had recently many cases of erysipelas in their mastoid operations. The erysipelas was not stopped until physicians, nurses and attendants were required to wear rubber gloves in treating the cases. This effectually stopped the further spread of the erysipelas. Dr. Welty had intended to carry his investigations to the laboratory, but facilities for doing such work in San Francisco at present have been so much disturbed that it will be impossible. He would like very much if some one would take this subject up and work it out from a scientific standpoint. When certain conditions are present in a given number of cases, one can rest assured that they have something to do with the causation or the progress of the affection; furthermore, when streptococci can be demonstrated in the pus, why, he asked, should it not become an established fact that this is the direct cause of the infection. Until a better explanation can be given for the causation of erysipelas, Dr. Welty will look on the presence of streptococci as proof positive.

## INFLUENCE OF A TUBERCULOSIS SANATORIUM ON THE VALUE OF SURROUNDING PROPERTY.*

WILLIAM H. BALDWIN.

WASHINGTON, D. C.

This question is practical, for it is admitted that many more sanatoria for the treatment of tuberculosis are needed, and the first question to be decided in starting to build one is where to locate it. Since it is also admitted that sanatoria need not be confined to any particular climate or region, there is a wide choice of locations, which will be affected by many considerations.

Foremost among them are those relating to the purpose for which the institution is started, requiring abundant fresh air, a maximum of sunshine and freedom from smoke or dust. These all imply plenty of room, if not something like isolation; and many sanatoria are located at a distance from cities or even from any large town. The absence of the excitement caused by contact with numbers of people, and of the distractions incident to city life, favors successful treatment, but convenience of access for patients and facility for obtaining needed supplies must also be thought of, and these can best be secured near some city, often without foregoing the first requisites.

The subjective conditions on which the accomplishment of the purpose of the institution depends being satisfactory, the next question is the value of the land required. Here, too, the isolated location has the advantage, for, other things being equal, the area of land needed can be bought for less money, or more land for the money available, than if a site is chosen to which the increment added by the proximity of improved and perhaps closely settled property has already attached. And in connection with this question of value we have also to take into account the effect such an institution will have on the value of adjacent property, for the total cost to the community includes anything it may subtract from that. In studying this effect two elements are to be distinguished, the influence of the building and improvements as such, and the purpose for which these are used.

### INFLUENCE OF THE BUILDING.

As a rule, it may be said that the erection of any building not in itself objectionable, by taking up a certain amount of land and so decreasing the remainder available, while increasing the purposes for which it may be used, enhances the value of the surrounding land, and so is an advantage to it. The value of any piece of land is determined by many influences, depending on the various uses to which it may be put. Unoccupied land

* Report as chairman of the Sociological Section at the meeting of the National Association for the Study and Prevention of Tuberculosis at Washington, D. C., May 18, 1906.

is likely to be used first for grazing or farming, then, as population increases, for residences, and later for business purposes, manufacturing or trade, or both. So far as the value of surrounding property is concerned, that building is most desirable which best fulfils the general purpose for which land in the vicinity is used, a good farm house in the country, or a fine residence on an improved street, or a large store in the business section. No matter what its use, a building which is discordant in any way lessens the desirability of contiguous property and so detracts from its value, as a store in a residence street. Generally speaking, any large institution, the inmates of which are not united by association or community of interest with the people of a closely settled neighborhood in which it is placed, is a detriment to property about it. Beauty of buildings or of grounds may decrease this disadvantage in spite of the lack of connection between it and its environment.

Suburban or country property is not so much affected by such an institution, because initial values are less, and may be so low that its presence will cause values to rise. An increase in population, other things being equal, helps values, and the institution may be relatively large enough to have this effect. Such improvement may be limited, and should be compared with what might have taken place, or the extent to which it might hereafter be likely to go, if there had been no such institution. Hospitals of any kind would be objectionable to some people, partly because of the reason given above, and partly because the proximity of suffering or sickness is in itself distasteful. A detention hospital raises this opposition to the superlative degree, and prospective neighbors have been known to fight off such a necessary refuge for the unfortunates who require treatment somewhere, with all the fervor of a holy war.

Two years and a half ago I asked Dr. Biggs whether there would be any danger to residents in the vicinity if a detention hospital for smallpox and such diseases was located in the center of a piece of ground containing more than six acres in the suburbs of a western city. "Not a particle," he answered. "There has never been a case of infection from ours in New York, though it is located next to the most crowded portion of the city; but unless human nature is different there you will find the most vigorous opposition to it." Human nature instantly revealed its similarity, and the pesthouse, as it is called, is still no nearer an abiding place than the Wandering Jew, or the tramp who is told by the policeman to "move on." Each councilman is entirely willing to have it in any one of the other six wards, but as soon as a location in his own is offered he and his constituents raise a greater tumult than the Chinese when they beat their tom-toms and other noisy instruments to ward off an eclipse. So far, the vociferation, coupled in one instance with a threat to burn the building, has been as effective in frightening away the authorities as that of the Chinese is in making the dragon disgorge the sun, for no location has been held much longer than the duration of a solar eclipse, and the sky is now entirely clear.

### USE TO WHICH BUILDING IS PUT.

This leads to the second element in the problem of the effect of the institution on the value of surrounding property, the knowledge that it is for tuberculous patients. In itself this must be objectionable, for tuberculosis is now known to be communicable rather than hereditary, and those who know no more are likely to fear and avoid it. Fuller knowledge dispels the fear and shows that under the training of a well-conducted sanatorium there is less danger of infection from a hundred patients than from two uninstructed consumptives going at will about the streets and disposing of their sputum in the way most convenient for themselves.[1] We can not overcome all the disadvantages of an institution, as such, but we can and should be sure that it is not in the slightest degree a menace to the health of those who live near it. This danger being therefore imaginary rather than real, there remains the interference with the serenity of the people in the neighborhood who come in contact with men and women whose appearance often discloses the struggle for life they are making, in which some are not winning.

### STATISTICAL EXHIBITS.

In order to learn the facts concerning sanatoria already established, an inquiry was addressed to seventy-seven of the largest of such institutions throughout the United States and in Canada. Besides the name, location and date of establishment, thirteen questions were asked as to the character of each sanatorium and its buildings, the effect it has had on the community and on surrounding property and the attitude of people in the vicinity toward it. Replies more or less complete were received from fifty-nine of these, located in twenty states and territories, of which thirteen are in New York and two in Canada. Some general groupings from these returns may be of interest:

LOCATION.

| | |
|---|---|
| In cities | 18 |
| In suburbs, smaller towns and settled country | 18 |
| Isolated or in thinly inhabited country | 23 |

The capacity of the fifty-nine institutions runs from 12 at Lake Nebagamon, Wis., to 350 each at the Massachusetts State Sanatorium and St. Joseph's in New York, as follows:

CAPACITY.

| | | | |
|---|---|---|---|
| 50 or under | 24 | Over 100 | 15 |
| Over 50 to 100 | 18 | Not stated | 2 |

As to the class of patients taken, 28 are for those who can pay, 19 for those who can not, and 12 for both. As to the kind of cases, 34 are for incipient or probably curable cases, 23 for those in any stage and 2 for advanced or presumably hopeless cases only.

The time during which they have been established, important as showing the period during which any influence on the neighborhood has been exerted, ranges from the State Sanatorium in Wisconsin, just being erected, to the Lincoln Hospital in New York City, started sixty-seven years ago. Several others were originally for other cases, and an approximately close division would be:

TIME ESTABLISHED.

| | | | |
|---|---|---|---|
| 1 year or less | 4 | 5 to 10 years, inclusive | 18 |
| 2 to 4 years, inclusive | 26 | Over 10 years | 11 |

The kind of building would also make a difference about the effect on adjacent territory, and a classification of these must be somewhat indefinite. As nearly as may be gathered from the data obtainable, we may distinguish them as:

KIND OF BUILDING.

| | | | |
|---|---|---|---|
| Very good | 11 | Poor | 6 |
| Good | 34 | Not described | 1 |
| Fair | 7 | | |

Another principal element in the problem is the quantity of land; for an institution with ample grounds may be more or less self-contained, the patients mingling little with the outside world, while the limitations

1. Waters: "Sanatoria for Consumptives," p. 29.

of a small lot may make walks about the neighborhood for exercise unavoidable. Aside from five on city lots or blocks, the quantity runs to 700 acres at the State Sanatorium of Minnesota, as follows:

QUANTITY OF LAND.

| | |
|---|---|
| 20 acres and under | 7 |
| Over 20 up to 100 acres | 15 |
| Over 100 up to 200 acres | 6 |
| Over 200 up to 500 acres | 6 |
| Over 500 | 4 |
| Not stated | 16 |

Although the question as to any change in the value of the land owned by the institution, measured either by its valuation for taxation when acquired and now, or in other ways, bears directly on the subject, and was plainly asked, it was not answered in 30 of the responses, and 4 replied that the land was not valued for taxation. The other 25 reported as follows:

CHANGE IN LAND VALUES.

| | Established. | Located in City. | Country. | Isolated. |
|---|---|---|---|---|
| Increased | 3, 4 and 14 years | 2 | 1 | .. |
| Much increased | 3, 21 and 67 years | 1 | .. | 2 |
| Doubled in value or more | 2 to 42 years | 1 | 5 | 4 |
| No change | | .. | 2 | 7 |

In no case is it stated that the land on which the institution is situated has decreased in value, and as its worth depends largely on the value of surrounding property, there is nothing in this to indicate an unfavorable effect of the sanatorium.

Coming directly to the difference in the character or value of adjacent property since the founding of the sanatorium, an answer more or less definite has been obtained as to each, and divided into four classes with other features noticed, they are:

CHARACTER AND VALUE OF ADJACENT PROPERTY.

| | Established. | City. | Country. | Isolated. | Free. | Paying. | Both. | All cases. | Early. | Late. | Large (150A.+) | Smaller. | Not stated. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| No change in character or value | 1 to 30 yrs. | 6 | 3 | 12 | 8 | 8 | 5 | 10 | 11 | | 4 | 6 | 11 |
| No change in character increased in value | 2 " 67 " | 8 | 10 | 6 | 7 | 13 | 4 | 8 | 15 | 1 | 7 | 15 | 2 |
| Improved in character increased in value | 2 " 24 " | 2 | 5 | 3 | 1 | 7 | 2 | 3 | 7 | | 3 | 5 | 2 |
| Nearby property injured or not improved | 3 " 42 " | 2 | | 2 | 3 | 1 | | 1 | 2 | 1 | | 3 | 1 |

In 58 per cent. of the instances, therefore, there has been an increase in the value of the land adjacent, accompanied in 17 per cent. by a change for the better in the purposes for which it is used; in 35 per cent. there has been no change, and in 7 per cent. a more or less marked depreciation in land immediately adjoining is admitted. In one instance this effect is for a distance of 400 to 800 feet, in another up to 1,500, while in the other two cases the opinion is given that the presence of the sanatorium has prevented or would prevent sales.

Connected with the foregoing, both as cause and effect, is the attitude of the community toward the institution. In one case this is not stated, in 37 it is said that there has been no opposition at any time, in 2 that there was once vigorous opposition, in 5 that there is some objection still, and in 14 that there was once opposition, which has since disappeared. Related also is the general effect on the community, which takes other aspects than that of commercial value. This is stated as follows:

EFFECT ON COMMUNITY.

| | |
|---|---|
| Helpful, and in some cases educational also | 21 |
| Not unfavorable | 6 |
| Increased population | 1 |
| Educational | 9 |
| Detrimental to sale of land | 4 |
| No effect | 18 |

DISCUSSION OF STATISTICS.

The circumstances about these institutions are so complicated that it is difficult to determine how far any change in surrounding property is due to the sanatorium, or what features in this surrounding property or on the institution have accounted for it. The average length of time for which the 10 sanatoria about which there has been a change in character as well as an increase in value have been established, is twelve years, and of those in which the increase has not been accompanied by any change, excluding Lincoln Hospital in New York City, established sixty-seven years ago for other purposes, six years. The percentage of increase in the six cases of the former in which an estimate is given, ranges from 15 per cent. to 300 per cent., and the average annual rate is 6.7 per cent., while the average length of time during which the six have been established is 13.7 years. In the seven cases of the latter group in which a definite statement as to percentage of increase in value is made, it runs from 15 per cent. to 100 per cent., averaging 16.6 per cent. annually, and the average length of time the seven have been established is 4.3 years. Combining the two the average annual rate of increase for the whole 13 is 12 per cent., and the average number of years established 8.6. Although two of the institutions showing the next to the largest rate of increase are located in a rapidly developing section of California, where the improvement is largely due to other causes, and although part of the increase in other cases, which are for the most part in places less affected by other circumstances, may be due to the general advance in prices of property constantly taking place throughout our growing country, these figures seem to indicate that in many cases a sanatorium has a beneficial effect on property values, except perhaps of that in immediate contact. It is unfortunate that the number of instances is not larger, as percentages drawn from so few are of less value, but of the thirteen 38 per cent. were in the city, 46 per cent. in the country and 16 per cent. isolated; while about half were for paying patients and one-quarter each for free or for both. There were 38 per cent. on tracts of land of 150 acres or more, and 54 per cent. on smaller tracts or lots, with one not stated.

The opinions as to the effect on the neighborhood came from those connected with the sanatorium, and to that extent may be unduly favorable. Some effort was made to get opinions from local authorities, to which reference will hereafter be made, which in five cases out of the thirteen confirmed or did not contradict the opinion given, and in one other declared that the growth had not been influenced by the institution.

How far the increase in values noted is but part of the general rise throughout the country it is difficult to determine for want of a proper standard. The average value per acre of farm land in the United States was $22.72 in 1880, $25.81 in 1890, and $24.39 in 1900, a net increase of 7 per cent. in twenty years, or 0.35 per cent. annually.[2] This in no way compares with the rate given for that about the sanatoria of which we know; but as an area of nearly 60 per cent. of new land had been added during that time the nearly stationary value may have been due to the proportion of this and not to a lack of increase in the value of land listed in 1880. It is probable also that agricultural conditions, which might not affect the property by which many sanatoria are surrounded, may have kept farm land from

2. Statesman's Year Book, 1902, p. 1303.

advancing as residence property did, or even put it back during the second decade.

The national wealth increased from forty-two billions in 1880 to ninety-four billions in 1900, which is 121 per cent., or 6 per cent. per annum, which is still only half the average rate for the property adjacent to the thirteen sanatoria; and if we take the national wealth per capita which is perhaps a fairer basis, the increase from $850.20 in 1880 to $1,235.86 in 1900 is 45 per cent., or only 2.25 per cent. per annum.[3] It may be that the rate for farm land and for national wealth during the last six years, covering more nearly a part of the average period during which these sanatoria have been in existence, has been more rapid, but it could hardly have increased enough to affect greatly the conclusion above drawn.

Several instances showing very large percentages of increase, which bring up the average materially, cover an existence of from three to five or six years only, and so far as the change is due to the starting of the institution, it can not be expected to continue. The initial value of the land also has an important bearing on the percentage. It is possible that failure to make any approximate statement as to the amount of increase in any case indicates that it is not so large, and that the average when not stated is much less. Information in some of the other twenty places tends to confirm this idea. In two small places, where the sanatoria have been established nine years and have been the only apparent reason for the growth, there has been an increase in the amount of taxable property listed of 36 per cent. in one case and 44 per cent. in the other, or an annual increase of 4 per cent. and 5 per cent.

### INDIVIDUAL ILLUSTRATIONS.

Some reference to individual instances may be instructive, and typical examples of older institutions in cities are the Cullis Consumptives' Home in the suburbs of Boston, Mass., where opposition, started eight years ago, has ceased because experience has shown that there is no danger from the institution; and the Brooklyn Home for Consumptives and St. Joseph's Hospital for Consumptives in New York City, where there has been no opposition. In the first case land values have increased 400 per cent. in thirty-five years, and in the last 50 per cent. in twenty-four years.

The Adirondack Cottage Sanatorium is of course the earliest instance of one in an isolated locality, and its wonderful success has added greatly to values in the neighborhood by the large increase in population with the attendant expansion, or rather creation, of business which this has brought. Property which sold for $100 an acre when the sanatorium was established twenty-one years ago now brings 5 cents a foot, a more than twenty-fold increase.

Since the Winyah Sanatorium, Asheville, N. C., was founded eighteen years ago the value of surrounding property has increased probably three-fold. The city has recently passed an ordinance forbidding the establishment within its limits of any tuberculosis institution without a license; though the presence of such an institution must be far less dangerous to the health of its citizens than consumptives living in boarding houses without any supervision.

Statements of leading residents and business men show that property in Sharon, Mass., has greatly appreciated in value since the sanatorium was started there fifteen years ago, some in its vicinity being now worth three times as much as it was then.

An exhaustive inquiry by Dr. King shows that since the Loomis Sanatorium was established ten years ago in Liberty, N. Y., values of property have increased one-third; that the population of Liberty and the surrounding towns has increased 14 per cent., or 2,465 persons, in the last five years, while the increase in the rest of the county has been but 124 persons; that the railroad passenger business has increased about 20 per cent each year for the last five years; that the roads are better, and that there has been no increase whatever in the prevalence of tuberculosis among the natives. This indicates that in any such community such an institution would be a benefit, not a drawback.

A similar inquiry as to the State Sanatorium at Rutland, Mass., established eight years ago, proves that during that period the valuation for taxation of property on the assessors' books has increased 36 per cent., that the population is greater and that the public health has not suffered.

Testimony of similar import comes from the mayor and the editor of the local paper at Gravenhurst, Ont., where there are two sanatoria, showing that the assessment of the town for taxation increased 44 per cent. in nine years and the population 25 per cent. in the same period. So also has initial prejudice been removed and a friendly feeling on the part of the inhabitants been secured by the experience of the Montefiore Country Sanatorium at Bedford, N. Y., and the White Haven Sanatorium at the old lumber town of the same name in Pennsylvania; while in a new country the Pottenger Sanatorium at Monrovia, Cal., shows that in spite of some adverse feeling population and values in the locality have greatly improved in the three years since it was built. The people of the farming community about the South Mountain Camp Sanatorium in Franklin County, Pa., appreciate the demand for produce which it has brought, and the older community of Wallingford, Conn., looks more kindly on the Gaylord Farm Sanatorium because it has increased business, brought visitors and apparently caused some increase in real estate values.

In addition to the opposition noted in the previous instances, it is stated in another case that while the institution has had no effect on surrounding values it is probable that the land could not be sold so readily if put on the market, as there is some prejudice in the minds of the laity in regard to such institutions. In another instance it is said that all are proud of the institution, though "everyone is scared of consumption;" in another that there is no question that the existence of the institution has prevented the erection of residences immediately adjoining it; in another, recently established, that there was very decided opposition in the whole community, which has changed to active support, and there is no opposition now; in another, in a city, that there was no opposition at first, but when tents were put up in the grounds objection was made for esthetic reasons; and in another city institution that there was strenuous opposition on the part of residents, which seems to have been unreasoning or due to personal prejudice, as they were not as a rule owners of property.

### VARIOUS EXPERIENCES.

A study of these various instances indicates that twenty years ago there was indifference to the establishment in the neighborhood of an institution for the treat-

3. Statistical Abstract, 1905, p. 534.

ment of tuberculosis. A partial knowledge of the nature of the disease has produced a hypersensitiveness in regard to it and developed opposition which a fuller experience removes in time. In some cases this opposition is due to prejudice rather than to any feeling of danger or the possibility of any considerable decrease in the commercial value of property. This was apparently true in the circumstances attending the proposed establishment of a municipal sanatorium for New York City in April, 1903. Following the decision to erect one a desirable tract of 90 acres in Orange County was offered to the city, rent free, and definite steps for the erection of buildings on it about to be taken; but, as it is related that, before Buddha first went out from the palace where no mention had been made of "death or age, sorrow, or pain or sickness," the king commanded that there be seen "none that is sick, or stricken deep in years," and that "no feeble folk go forth," so the owner of a vast estate near the site of the proposed sanatorium, not being filled by the pity taught by Buddha's later life, also desired to see no feeble folk with hollow cheeks along the ways where he passed in his automobile, and having influence with the state government, succeeded soon in having the Goodsell-Bedell bill passed, in spite of the protest of the New York Academy of Medicine and of the declaration of the commissioner of public charities that it "would result for years to come in more sickness, destitution, suffering and death among the tenement-house population in New York than it was possible to calculate." This law compels the county supervisors and the town board each to adopt a permissive resolution, in addition to the consent already required from the state and local boards of health, before any municipal sanatorium for tuberculosis can be established anywhere in the state. Since it was made impossible to secure such consent, the site had to be given up. Other attempts to obtain one also failed and two years later the health department had to abandon a large and satisfactory tract of land offered it in Sullivan County because the town board refused to permit its purchase for the purpose; but in the summer of 1905 a fine location with more than 1,000 acres at Otisville, Orange County, on the Erie railroad, 76 miles from New York, was purchased, on which buildings nearly ready for patients have since been provided. Even then the Erie railroad agent, with the assistance of some people in the vicinity, did what he could to prevent the establishment of the sanatorium in the place.

Several months since a proposal by private parties to start a sanatorium on Long Island met with opposition, which, so far as I know, stopped it. Last year General Sternberg, for the Washington Sanatorium Association, had an option on a very desirable property in Rockville, Md., about 20 miles out of Washington, but before the transaction could be closed the town passed an ordinance prohibiting the location of any institution for tuberculosis within the city limits, making it necessary to look elsewhere. When a farm house with 6 acres of land was bought near Washington Grove the camp-meeting association of that place had a spasm of fear, and demanded that the sanatorium be called by some other name, which accounts for its being known as Starmont, after General Sternberg.

In the search for the best location for the state sanatorium in Ohio, 104 sites were offered besides the one of 357 acres near Mt. Vernon finally chosen, and in only one instance did opposition before the commission develop; but there is evidence of latent objection in some cases which would perhaps have become active if the location had been more seriously considered, and there was a very little in Mt. Vernon after the site was chosen, which was removed. No unfavorable effect on adjacent property has resulted from the clinic for pulmonary diseases in New York City, but a similar dispensary, which was being started a year ago by the health department in Brooklyn, was stopped by an injunction granted by Judge Marean of the Supreme Court, who declared in his opinion that the institution would be a "crying nuisance," and that the complainants, among whom was a doctor, were right in swearing that its establishment would cause them irreparable damage. A similar prejudice hinders the location of one in Columbus, Ohio, and of a day camp outside the city.

The mayor of Denver writes that the hospitals for consumptives in that city are so sanitary and kept so chemically clean that they are little, if any, more objectionable than any other kind of hospital; but the head of the health department of another large city, while declaring that there is no reason why institutions for tuberculosis should injure surrounding property, says: "I think, as a rule, people are opposed to such institutions, and that some would sell at a sacrifice were such an enterprise inaugurated in their neighborhood."

In the establishment of a sanatorium it sometimes seems that the real obstacle is the prejudice, the groundless fear, the unreasonable and unreasoning opposition of the people, in comparison with which the raising of funds, the removal of rocks and the construction of buildings are trifles. When such antagonism exists, whether just or not, it demands consideration, and any needless interference with values should be avoided. Experience has proved that there is absolutely no danger from a well-conducted sanatorium, and that there is no valid reason for fear in regard to it. Too much emphasis can not be laid on this point; but it is easier to explain this to the few people in the suburbs or in the country than to the many in a more thickly populated section. Whatever damage there is will be less in the case of property not already very valuable than in that of residential streets or fine suburban homes.

It is clear that in the wide choice which the present knowledge of the necessary treatment affords some place within the region in which it is needed may be found for almost every sanatorium yet to be erected, where a wise policy may benefit the community and make friends, as has been done in so many of the cases cited. The educational influence of each of these institutions, exerted through its patients, extends beyond its own neighborhood, and by increasing the knowledge of the nature of tuberculosis lessens the fear of it when proper care against infection is taken, as it is in all well-conducted sanatoria. The more completely this knowledge prevails the sooner will those in need of sanatoria seek their shelter, the shorter will be their stay, and the sooner will any unfavorable effect on surrounding property by reason of the purpose to which such institutions are devoted disappear.

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**Instruction in Materia Medica.**—W. S. Fullerton, St. Paul, in the *Journal of the Minnesota State Medical Association*, says that if surgery were taught in the dilettante way that materia medica is in too many of our medical colleges, surgical cases would be to a great extent in the hands of the instrument makers, who would be instructing the surgeon through their commercial travelers, as the medicine houses are attempting to do with the general practitioner.

# THE PHARMACOLOGY OF DIGITALIS.*

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The suggestion of this title for a paper was held to imply considerable latitude, since even a single phase of the pharmacologic action of digitalis could not be treated comprehensively in the time allowed to a single paper.

I shall attempt, therefore, only a brief review of the principal actions of the drug with a few remarks on the individual peculiarities of certain pure principles having a digitalis action, together with some observations bearing on the therapeutic use of the crude drug, its preparations and these isolated principles.

The digitalis action is most briefly defined as consisting in the characteristic slowing, followed by systolic stand-still of the frog's heart. As Heinz has said, this does not seem like a happy choice of definition, since it merely states a toxic action without even indicating how it is brought about, but it is useful since almost any drug which produces this effect may be used in the same way that digitalis is employed for the human heart.

Withering published a book on digitalis in 1785, since which time the drug has been the subject of considerable study. The diuresis which it caused was at first the only effect noticed or utilized, and it was about fifty years later that Blake (in 1839) reported the characteristic effect on blood pressure. Some years later (1851) Traube undertook to explain the cause of this action, but he did not define sharply the relative effects of digitalis on the heart and blood vessels.

About thirty years ago Schmiedeberg and his followers observed the action on frogs' hearts, and concluded that the blood pressure effects were attributable solely to the action on the heart, which was of a specific nature. Kobert, however, showed that the vessels undergo constriction, and therefore participate in the rise of blood pressure.

When Williams devised his celebrated apparatus, and Herring and Bock evolved their method of perfusing the mammalian heart, the way was opened for the more exact study of the action of digitalis.

The literature of this subject is so vast that I can not attempt to mention all the sources from which our information is drawn, but will merely select a few bearing on the practical application of the drug in therapeutics.

It will be most convenient perhaps to consider the subject in the following order:

1. Pure slowing. Its cause and effects.
2. Pure general muscular actions and their effects.
3. Pure vascular actions—causes and effects.
4. The net circulatory effects.

The central action will be considered mainly with reference to its peripheral effects.

## SLOWING OF THE HEART.

Slowing occurs in the atropinized frog's heart from the action on the muscle causing a veratrin-like condition, whereby the systole is increased at the expense of the diastole. Obviously, this alone would cause but little improvement in the circulation, save possibly at the very first, when the increased contraction may result in expelling more blood, particularly if the irritation of the muscle partially or completely overcomes the tendency toward slowing due to the increased systolic phase. Without atropin, the peripheral vagus mechanism participates in the cause of slowing in the frog, but not in the mammal to an appreciable extent, according to later observers.

In the intact mammal the vagus center is effectively stimulated, and causes slowing through an influence directly opposite to that of the muscular action, since vagus stimulation causes a true muscular inhibition, hence diminution of systole or an increase of diastole at the expense of the systole. In a high-grade stimulation of the center, the diastole may be increased to many times its normal duration. Ackermann did not observe any slowing or increased dilation after atropin, and Gottlieb and Magnus found the slowing in the Langendorff heart negligible, while vagotomy produces almost the same result.

Pure slowing must tend to lessen circulation and to cause a fall of blood pressure, which must actually occur if the slowing be sufficient to counteract other influences, but the lengthened diastole permits an increased volume of blood to enter the heart and also affords longer periods of rest. Slowing lessens the coronary circulation if the systolic phase predominates, but each separate contraction squeezes out the venous blood, permitting a fresh supply of arterial blood during each diastole; on the other hand, a lengthened diastole affords a longer period during which blood may flow through the coronary arteries, and if this phase predominates the longer period of free circulation may compensate for the more frequent renewal obtained by a faster heart. Another advantage obtained by pure slowing is the better opportunity for the great vessels to empty enough of their contents to lessen their distension and the subsequent resistance against which the heart must contract, and the substitution of resilient for more nearly rigid tubes of liquid.

## CARDIAC EFFECTS.

The purely muscular effects are much alike in all animals and have been most frequently studied on the frog's heart. Primary quickening, due to muscular irritation, is often seen before vagus stimulation in experiments, but this soon gives place to slowing from the causes mentioned.

Certainly the most typical muscular action is seen in the tendency to remain contracted, which at first causes only lengthened systole and shortened diastole and later systolic stand-still. The capacity of the muscle for rhythmic contraction is not impaired or abolished at this time, as Schmiedeberg showed by distending it by force, when normal contractions ensued for a short time, soon giving place to paralysis of the function, the heart remaining contracted.

Schmiedeberg considered the chief effect of digitalis on the muscle as leading to an increased elasticity, a larger volume of blood entering the ventricle, which then resumed its normal systolic position. He was unable to perceive any increase in the total capacity for work or maximum strength, but supposed that digitalis merely made the energy more available. While it seems that this must be true for the latter statement, it has been found that the heart is capable of contracting more forcibly (maximum increased) under isometric conditions, and that a larger volume is expelled under isotonic conditions. There is, therefore, practically an

* Read in the Section on Pharmacology of the American Medical Association, at the Fifty-seventh Annual Session, June, 1906.

increase in the total maximum force, as well as the total energy because of the action of digitalis on the heart.

Heinz was unable, however, to get an increase in the absolute strength of the mammalian heart.

François Frank obtained an increased maximal force of contraction, and Gottlieb and Magnus, using the most perfect methods whereby they eliminated such disturbing factors as changes of temperature and alterations of coronary circulation, found that, when under the influence of digitalis, the heart would support a higher column of liquid.

The improved systole, whereby the ventricle is more nearly emptied, following the lengthened diastole, which permits of the increased distension by a greater volume of blood, must result in an increase in the volume of each pulsation, in some cases to the extent of 50 per cent., and this is usually more than sufficient to compensate for any slowing that occurs, hence there is an increase in the total output in a unit of time.

This single fact must mean an increase, if not improved, circulation. This will be mentioned later.

### VASCULAR EFFECTS.

The vascular effects of digitalis and its isolated and related principles have been the subject of much dispute since Kobert showed that vasoconstriction occurs.

The several obvious proofs of vasoconstriction are afforded by the microscopic observation of the vessels in the web of the frog's foot; by a rise of mammalian blood pressure before the cardiac effects are produced; by oncometric measurement of certain organs; and by the fact that the circulation time in excised organs is increased by digitalis.

The latter experiment demonstrates that the action is in part at least peripheral, and since it occurs after the nervous elements are supposed to have ceased to function it is attributed to muscular action. That the center participates in the action in the intact mammal is not denied, and the reflexes appear to play a very important rôle in the case of certain of the pure principles to be mentioned presently.

The three principal points of therapeutic interest in connection with the vascular effects are: The general rise of blood pressure which occurs, the want of participation in the constrictor action on the part of the pulmonary circulation, and the different effects of the various principles on the coronary circulation. The coronary circulation is commonly lessened by digitalis in perfusion of the isolated heart, since the vessels are constricted.

### CIRCULATORY EFFECTS.

These constitute the summation of all the actions just considered.

As previously stated, the total output of the heart must obviously control the amount of blood which passes through the arteries. Cushny specifically states that digitalis causes more blood to be driven out of the heart in the therapeutic stage, owing to the predominance of the systolic phase (cardiac effect). But he also states a few lines further on that digitoxin (and that may be considered as having the same action as digitalis) retards the outflow from all the arteries. It is incredible that the output of the heart for a unit of time, which amounts to 50 per cent. in some cases, can be attended with a slower circulation, but Sollmann also states that the velocity is diminished.

A slight increase over the therapeutic dose may cause the inhibitory phase to prevail and the output of the heart per unit of time will be diminished because the heart is greatly slowed, while the systole and diastole are altered but little.

A high blood pressure at the beginning of the systole will evidently increase the work of the heart which in turn must receive increased nutrition or become exhausted. If the systole persist until the aortic pressure has fallen materially, there will be less pressure to drive the blood through the coronary circulation during diastole, and the three factors—slower pulsations, constricted coronary vessels and inability to utilize the maximum blood pressure—must prevent as perfect nutrition of the heart as will occur if they do not coöperate.

On the other hand, more perfectly aërated blood displaces the venous blood, because of the more thorough squeezing out of the arteries and capillaries at each stroke, partially compensating for the disadvantages mentioned.

While the vasomotor center contributes to the rise of blood pressure, it appears that the musculature of the arteries is a more important factor in digitalis and some of its principles.

### DIGITALIS, AND ALLIED, PRINCIPLES.

But little was known of the active principles of digitalis until Schmiedeberg's celebrated investigation was published about thirty years ago. He studied the seeds and extracted digitoxin from the leaves. Since then very small amounts of digitalin and digitonin have been found in the leaf. Keller was unable to find digitalein, which he considered as merely a mixture of digitalin, with a little digitonin. He worked with very small quantities of the leaf, which may account for his failure to find the digitalein.

Digitalin was investigated pharmacologically and clinically and bade fair to come into general use, but at the present time it is of little practical importance.

Digitoxin more nearly represents the leaf, but the presence of traces of digitonin in the latter tend to counteract the vasoconstrictor action of digitoxin and probably modifies it to a considerable extent.

Despite the numerous disadvantages of digitoxin, it bids fair to displace digitalis in therapeutics. Among these disadvantages are: Its insolubility in water and consequent irritant action, slowness to act and tendency to cumulative effect; its proneness to decomposition, whereby toxiresin is formed; the narrow margin between the effective dose and that which causes accumulative effects on continued use; and its marked vaso-constrictor effects, which may, or may not, be objectionable, dependent on the case in hand.

The irritant action is responsible for the gastrointestinal and cardiac effects, and it precludes its subcutaneous injection. This insolubility also seems to be responsible for the delay of forty-eight hours or more in inducing the cardiac effects, the rapidity of action of those principles appears to be proportional to the readiness with which they combine with the sensitive apparatus in the heart, while the cumulative effects seem to be in proportion to the stability of the combination.

It has been urged that the ease with which digitalis may be washed from the heart precludes any fine molecular combination in the muscle.

Digitoxin does not cause a greater vasoconstriction in the splanchnic area than in the periphery, and it appears to be capable of restoring the rhythm of the heart to an extraordinary degree when this is disturbed by pathologic conditions, apparently by virtue of its lessening the susceptibility to abnormal stimulants.

It will be noticed that the principal objections to digitoxin are connected with its insolubility, and Cloetta has succeeded in preparing a soluble, amorphous digitoxin, which may be injected subcutaneously.

I have not been able to find an account of the process of manufacture, but his original article is usually quoted to the effect that it is prepared by a very complicated process, evolved after five years of effort. This preparation, called digalen, is marketed by the firm of Hoffmann, LaRoche & Co., which, so Cloetta states, despite the trouble and expense amounting to 11,000 marks per kg., has happily undertaken the preparation, selling it at but 2 marks (48 cents) for a small vial so that it may be universally used.

Quite a bit of philanthropy, it would appear, but when we reflect that a kg. costing 11,000 marks contains 3,000,000 doses and sells for 440,000 marks ($105,600), the philanthropy becomes less obvious.

While clinical evidence seems to show that digalen is an effective substitute for infusion of digitalis, Karl Reitter, in Schrötter's clinic in Vienna, was unable to obtain the therapeutic effect with less than 6 c.c. (6 mg. daily), and finds it no better than the leaf and more expensive.

This preparation presents the anomaly of requiring a much larger dose when injected intravenously, presumably because of its rapid elimination by the kidney, and it will be interesting to know what the effect will be on that organ of the continued administration of so irritant a substance.

### STROPHANTHIN.

Loeb found that strophanthin had much less constrictor effect on the coronary circulation than digitoxin has. This is of much importance, as it has been shown that the heart tension, or strength, is dependent on blood supply to an extraordinary degree. If an agent causes general vasoconstriction it means that the heart must contract against an increased resistance, and if the constriction of the coronary vessels is pronounced, the blood supply of the heart may be diminished despite high aortic pressure.

P. Maas has shown dilator and constrictor nerve fibers for the coronary vessels, but we can not study blood supply of the heart when the vessels are under central control in the mammal.

Strophanthin possesses the typical digitalis action; it can be prepared in constant and stable form, it is not expensive, it can be given for long periods without inducing cumulative effects (Fränkel having given it to a cat in just submaximal doses for ninety-two days). The effective dose lies much further from that which causes cumulative effects than in the case of digitoxin. It is quite soluble in water, hence much quicker to act. This occurred in three hours as against forty-eight hours for digitoxin. It is much more active and less irritant than digitoxin.

Sollmann has suggested that it probably deserves the preference over digitalis, and it has been used with satisfaction in France, Holland and Belgium, but for some reason many species of seed, many of them inert, have been brought into Germany and the United States, and some tinctures were found to be but one-sixteenth as strong as others. This has caused the crude drug, its preparations and its pure principle to fall into disrepute.

### ANTIARIN.

This substance is of such extraordinary power that 1-10,000 of a milligram causes slowing of the frog's heart and 1-1,000 mg. causes systolic stand-still, being apparently 250 times as active as digitoxin.

Hedbom studied its action and that of antiarigenin—which he found but slightly toxic to the mammalian heart, though differing from antiarin only in the loss of a molecule of glucose. The extraordinary difference in the activity of these principles suggest that they possess an active nucleus so combined that it enters into more effective combination with the sensitive apparatus of the heart in some cases than in others, and it seems probable that further research may discover means of modifying some of the many more active principles of this type.

### OBSTACLES TO USE OF DIGITALIS.

The greatest obstacle to the use of digitalis and its preparations arises from their variability, due to differences in methods of collection and preservation.

It has been shown that leaves gathered in the proper season quickly dried, cut up, dried thoroughly in a vacuum and hermetically sealed, will undergo but little change in a year. We should, therefore, demand leaves which have been thus preserved and physiologically tested on the frog's heart, with the date of the test stamped on the package, as is done with sera.

Kobert tested leaves which had thus been dried and made into tablets with sugar of milk and starch, finding them effective.

This may appear as too complicated for practice, but there is no reason why such leaves should not be sold very much cheaper than the nostrums which are being so much lauded as possessing all the virtues and none of the objectionable features of digitalis.

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## PHARMACOLOGY OF VERATRUM.*

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I firmly believe that if pharmacologists, instead of spending their time investigating commercial synthetics would direct their energies to more careful study of pharmacopœial remedies, the world would be greatly benefited. A splendid example of the general ignorance concerning drugs which we call "well-known" is found in the case of the veratrums. When the statement is made in standard works on pharmacology, that the active principle of *Veratrum viride* is veratrin, and that this plant is useful only as a local application, it becomes evident that there is room enough for more accurate knowledge even among those who devote their attention especially to the study of drugs.

Before considering the properties of *Veratrum viride* I would like to discuss for a moment the question of the identity of *Veratrum album* with this plant. The Eighth Revision of the U. S. Pharmacopœia has recognized *Veratrum album* as equivalent to *Veratrum viride*, making one title, veratrum, to refer to both plants. I shall not go into the discussion of the botanical relations of green and white hellebore, as this question seems at present impossible of final decision. It may be dismissed with the

* Read in the Section on Pharmacology and Therapeutics of the American Medical Association, at the Fifty-seventh Annual Session, June, 1906.

statement that the majority of botanical authorities seem to hold the plants, not as specifically distinct, but as varieties; the differences between the two being only such as might be expected from different soils and climatic conditions.

While the alkaloidal contents of the two plants are in a general way very similar the alkaloid veratrin or cevadin, of which traces are discoverable in *Veratrum viride*, seems to be entirely absent from the European variety, so that it can not be claimed that their chemical compositions are identical. Moreover, it would seem that the relative proportion of the various alkaloids common to both plants is different. The reported cases of poisoning seem to show that vomiting and purging are more frequent and more pronounced after *Veratrum album* than by *Veratrum viride;* in other words, that the European variety contains more of the irritant principle, be it a resin or the acrid alkaloid rubijervin. In a study of the comparative effects of the two rhizomes, in 1899,[1] the conclusion was reached, that although, as a rule, the white hellebore was somewhat the more toxic of the two, the differences between them were no greater than might exist between individual specimens of *Veratrum viride*.

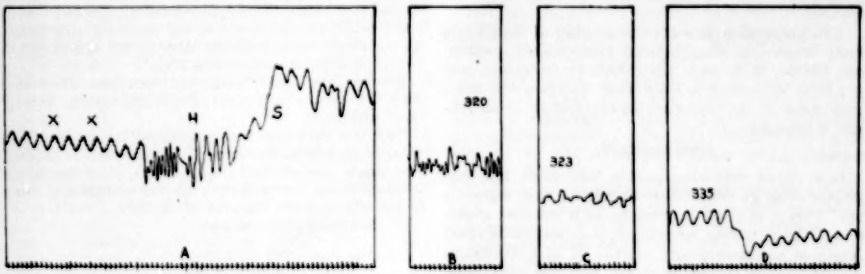


Fig. 1.—Atypical effects of *Veratrum viride*. A. This shows the rise frequently seen after a large dose of *Veratrum viride;* (x) indicates injection of 1 c.c. 25 per cent. solution of *Veratrum viride* (0.25 gm.). Both pneumogastric nerves have been cut, the animal crurarized and artificial respiration employed. H. Heart rapid. S. Slight convulsion. B. Five minutes later. C. Eight minutes later. D. Twelve minutes later. No drug has been given.

I believe, however, that the recognition of the two plants as identical was progressing backward.

Frequent observations of the effects of *Veratrum viride* on the circulation, as well as systematic studies of the drug, have impressed steadily on my mind the irregularity and uncertainty of the effects of this plant. Frequently have I been quite at a loss to explain to my classes the extraordinary effects which have followed the injection of this drug. These differences are very evidently to be explained by varying amounts of one or other of the several alkaloids; to this question I shall revert shortly.

The effects of veratrum on the circulation of the normal animal differ entirely according to the size of the dose which has been administered. If into a dog is injected what might be spoken of as the therapeutic dose of the drug ordinarily there is produced a distinct slowing of the pulse with a moderate fall of blood pressure (Fig. 1.). These conditions last for a considerable period of time and are followed by a gradual return to the normal. With the large toxic dose there is produced a marked slowing of the pulse, sometimes even complete arrest of the heart, with a fall of pressure almost to the zero line; suddenly the pulse becomes enormously rapid and the pressure rises to a height very much beyond the normal and continues so for several minutes, until it rapidly falls immediately preceding death. During this period of elevation of pressure it will be noted that the respiratory movements, if present at all, are usually ineffectual, and there is very frequent asphyctic struggling of the animal. The rise of pressure is generally attributed to the asphyxia; I have, however, performed recently two experiments in which in spite of artificial respiration the same sequence of events occurred, so that I believe that there is another cause for this toxic rise of pressure which I shall mention later.

In view of the inequalities of the effects of veratrum evidently it would be preferable to employ its active principle were such principle known. There appear to be five alkaloids in the plant, of which veratrin is present in such small amount that it can have practically no part in the general effects of the drug; while pseudojervin seems practically inert. This leaves three alkaloids to which might be due the poisonous properties of the drug; these are jervin, rubijervin and protoveratrin.

In considering the question as to which of these alkaloids is due the activities of the plant, we must bear in mind the therapeutic use of the remedy. Although the eclectics attribute to American hellebore "adenagic" virtues, whatever that means, the regular profession employs it almost solely for its influence in reducing blood pressure and in quieting the heart. In other words, the therapeutic use of veratrum is to slow and soften the pulse and to lower the arterial pressure.

Of the three alkaloids which contribute to the action of the crude drug, protoveratrin is undoubtedly the most actively poisonous. According to the experiments of Eden,[2] the fatal dose for the rabbit of this alkaloid is 0.11 milligrams per kilo, approaching, therefore, aconitin in its toxicity. The symptoms produced by it are muscular weakness, a peculiar dyspneic type of respiration and frequently convulsions. The blood pressure, following the intravenous injection, may undergo a temporary reduction but eventually rises to a point very much above the normal, the pulse rate, in the meanwhile, being markedly reduced. If the vagi have been previously divided the primary fall of blood pressure does not occur, so that it is evidently due to the slowing of the pulse. If the dose has been large enough the stimulation of the inhibitory mechanism gives way later to a

1. H. C. Wood and H. C. Wood, Jr.: Amer. Jour. Med. Sci., May, 1899.

2. Arch. f. Exper. Path. u. Pharm., 1892, vol. xxix, p. 440.

paralysis. These changes in the circulation occur in curarized animals, with artificial respiration, and therefore, and quite independent of any disturbance either of the respiratory center or of the motor apparatus. Late in the poisoning there occurs a stage in which asphyxia fails to produce a rise of pressure, so that it would seem that finally the vasomotor centers become paralyzed.

In experiments in which the spinal cord was previously divided the drug was still able to produce marked elevation of the blood pressure. To sum up, protoveratrin is a primary stimulant to the pneumogastric nerve, to the cardiac muscle, and probably to the vasomotor center. A toxic dose paralyzes the peripheral vagi and the vasomotor centers and produces a peculiar arrhythmic condition of the heart. It is evident, therefore, that although this alkaloid is the most poisonous substance found in the plant it can not be held responsible for the therapeutic uses of the drug, since, in therapeutic dose, it is a stimulant to the heart, rather than a depressant. I believe that the peculiar elevations of pressure sometimes seen after the injection of large doses of *veratrum viride* may probably be attributed to the stimulant effects of protoveratrin; when only a moderate dose has been employed the proportion of this alkaloid is so small that it fails to modify the action of the drug and facts would seem to indicate that it is to jervin that veratrum owes its therapeutic value (Fig. 2).

A study of the comparative power of the alkaloid and the crude drug, however, throws grave doubt on this conclusion. Jervin appears to be present in the root of *Veratrum viride* in the proportion of from 0.1 to 0.13 per cent. If it were principally to this alkaloid that the circulatory depressant influence of the plant is due jervin must be a substance of marked power. Such, however, is not the case. In my own experiments the intravenous injection of 0.02 Gm. of the alkaloid produced in a moderate-sized dog a fall of pressure amounting to only 10 millimeters of mercury, a drop almost negligible. The injection of 0.05 Gm. in two doses produced a fall from 180 to 155 millimeters, or a drop of about 15 per cent. In another animal of about the same size the intravenous injection of 0.25 c. c. of fluid extract of *Veratrum viride* produced a fall of from 200 to 160 millimeters. So far as my present evidence allows me to conclude, I believe that the quantity of jervin required to effect the circulation is about one-fifth of the dose of the rhizome of *Veratrum viride*. Evidently there must be some other principle which shares with jervin the responsibility for the action of this plant.

It is impossible for me to compare the fatal doses of this alkaloid and the rhizome because I have been unable

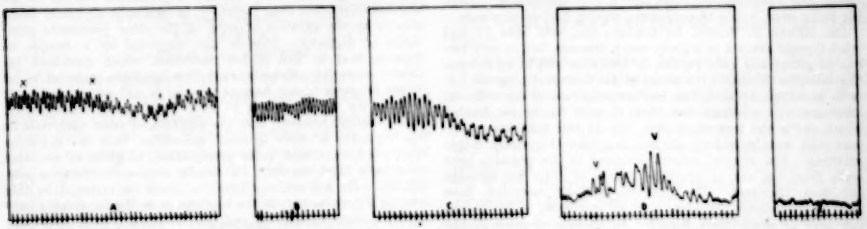

Fig. 2.—The physiological action of jervin. A, Five c.c. of 0.5 per cent. jervin (0.025 gm.) injected intravenously. B. One minute later. C. Fifteen minutes later, 12 c.c. of jervin solution injected. A total of 0.15 gm. has been injected. D. Fifteen minutes later, total of 0.18 gm. has been injected. V. Irritation of vagus. This shows the slight irritability of the vasomotor center on stimulation of the vagus.

may even favor the fall of pressure by slowing the pulse rate.

In 1874, an exhaustive study of jervin and veratroidin was made by H. C. Wood.[2] The substance known at that time as veratroidin seems to have been an impure form of rubijervin. Rubijervin is a comparatively feeble substance, present in very small quantities. Its dominant action is on the respiratory center, although it appears also to have some depressant influence on the heart muscle, as well as slowing of the pulse through stimulation of the inhibitory mechanism. It is present in the plant in the amount of 5 parts in 100,000.

Of the five alkaloids which have up to the present time been found in veratrum, we have excluded all save jervin as of therapeutic use. In the studies made by H. C. Wood, in 1874, it was found that this alkaloid produced a primary slowing of the pulse which later became rapid, with a progressive fall of the arterial pressure, due, he believed, in part to an action on the cardiac muscle and in part to the depression of the vasomotor centers; there was also a simultaneous or subsequent failure of respiration. These experiments I have very recently repeated with essentially similar results. These to kill a dog with it. In one experiment I injected into a dog weighing 9.6 kilos, 0.2 gm. of jervin (which was all of the alkaloid I had at my disposal) intravenously; it produced a very decided fall of pressure, from 180 millimeters to 65, but with no symptoms suggesting a probable fatal issue.

According to Eden, the minimum fatal dose of protoveratrin is 0.5 milligrams. Supposing that this alkaloid was present in the proportion of 0.03 per cent. in the rhizome of *Veratrum viride*, it would require 1.5 gm. of the crude drug to produce the fatal dose of protoveratrin. On the other hand, from the comparative studies already quoted, made by H. C. Wood and myself some years ago, we found the minimum fatal dose from hypodermic administration of the rhizome to be about 0.2 gm. In other words, if protoveratrin is the chief active toxic principle of *Veratrum viride* the quantity present is so small that the alkaloid would have to be seven times as active as even the extraordinary figures given by Eden.

From the above evidence it seems to me the following conclusions may safely be drawn:

*First*,—Neither veratrin nor rubijervin are present in *Veratrum viride* root in sufficient amount to be held responsible in any degree for the activity of the drug.

2. Phila. Med. Times, vol. iv.

*Second.*—Protoveratrin, although an extremely poisonous substance, differs essentially in its effects from the veratrum rhizome, and, therefore, is not to be considered its active principle. Moreover, the proportions of it are too small to permit of its being considered the toxic ingredient.

*Third.*—Of the known proximate principles, jervin most nearly corresponds in its physiologic action to the crude drug, but is present in too small amount in proportion to its toxicity to be considered the chief active ingredient.

*Fourth.*—The evidence, therefore, seems to me conclusive that there is in *Veratrum viride* some active substance as yet undiscovered.

## DISCUSSION

### PAPERS OF DRS. HATCHER AND WOOD.

DR. S. P. BEEBE, New York, said that Dr. Hatcher spoke of Cloetta having prepared a preparation of digitalis, apparently a very effective one, which has most of the advantages and very few of the disadvantages of other extracts, yet there has been no detailed publication of the method by which this substance is made. A publication which says that it is made by a very complicated process after investigations lasting five years, Dr. Beebe thinks is a very flimsy excuse for not publishing full details. It is treating the pharmacologists of the world as if they were children. He thinks that Cloetta should receive a rebuke. He thought that the Section on Pharmacology and Therapeutics might pass a vote condemning Cloetta for doing what would be condemned among its own members.

DR. HENRY R. SLACK, La Grange, Ga., said that he had tried thyroid extract in a great many diseases, but in only two has he gotten any good results, in cretinism and in myxedema. Digitalis, he thinks, is the surest of all therapeutic agents. It is to be hoped, he said, that the investigation of the different alkaloids will continue and that it will finally be decided which one is the best to employ. Up to this time his experience with any individual alkaloid has been thoroughly disappointing. The clinical results obtained in his practice have come from the use of powdered leaves or from the infusion and some tinctures. The alkaloids, without exception, have been disappointing. In acute diseases strychnin, in his hands, has been of much more benefit. In chronic diseases of the heart digitalis has been and is the sheet anchor. Brilliant results are obtained from its use in chronic forms of heart disease, with general anasarca. Veratrum, he said, is used in the South very extensively in pneumonia. When there is high fever, flushed face, bounding pulse, doses of veratrum act like a charm to reduce the temperature.

DR. WILLIAM F. WAUGH, Chicago, regretted that Cloetta did not make plain his process of producing soluble digitoxin because in it he seems to have made two very remarkable discoveries. He has found the means of making digitoxin soluble, and effects are gotten within an hour. Dr. Waugh has not yet been able to make out any difference in the effect of digitoxin and digitalin. The two apparently are identical in effect. He agrees with Dr. Wood that veratrin is not the only active principle of veratrum. There is a decided difference between the action of veratrum and veratrin. Veratrin increases, to a certain extent, vascular tension by way of increasing directly the muscular force of the heart; but the two are identical in one action, that is, in opening the eliminants. In their effect of stimulating elimination Dr. Waugh has not been able to find any distinction between veratrin and veratrum. In the stomach and bowels, in doses far below the amount necessary to produce the toxic effect, either will irritate the stomach. Veratrin has a more powerful effect on the respiration. That might be a desirable thing in treating pneumonia. It remains for the clinicians to say how best to use it. Practically no difference is found in the clinical applications of the two. While veratrin is not the active principle of veratrum, over a great part of the field of action veratrin can be used as a substitute for the other.

DR. W. J. ROBINSON, New York City, was of the opinion that papers of this character are not proper papers to be read before the association. These papers are to be slowly and carefully digested. Physicians come to this meeting, he said, to learn something of practical value in their practice, and he doubts if any one got one grain of value from all the statements about veratrum. Apparently nothing is settled about this subject. About every statement Dr. Wood made he said, "*seems*;" "seems to be the chief alkaloids," "seems to be the chief principle," and so on. Dr. Robinson believes it is better that such papers be not read. They may be printed in the transactions, but not read. If they are printed and distributed beforehand, intelligent discussion can be had.

As to Cloetta, before passing censure on him, he said it would be well to be sure of our ground. So far as his recollection goes, Cloetta did not publish a paper on soluble digitoxin. He knows that it is used with remarkable results in many of the hospitals, and it seems generally to act within five minutes; in fact, in one minute its effects can be seen on the pulse. He has not used it himself, but he follows carefully the literature on new preparations, and so far all the reports on digalen are very favorable.

DR. REID HUNT, Washington, D. C., remarked that at least one member must have paid close attention to both papers, else he could not have discussed them so fully.

MR. M. I. WILBERT, Philadelphia, requested Dr. Robinson to refer him to the literature which describes this process. Dr. Waugh made a suggestion, he said, which he thinks has occurred to many others, that is, that digalen, this soluble digitoxin, has an action similar to German digitalin. If that be true, and it probably is true, it would suggest that digalen is not pure digitoxin, but a mixture of principles, similar to the German digitalin, and, therefore, is ordinary digitoxin made soluble by the addition of some of the other proximate principles of digitalis. This is also suggested by a sample of digalen, that he had in his possession, which contained insoluble material. Exactly what this insoluble material is he is not prepared to say, because the vial is still sealed, and he is looking for several others to have them tested subsequently. It is possible, however, that the addition of other materials to the digitoxin is made in small quantities, that the digitoxin may precipitate, and, being precipitated, be given in one dose with very fatal results. He simply suggested this as a possibility. He did not say that the insoluble material in this vial is digitoxin, but, if the mixture is digitoxin, soluble only under certain conditions, and precipitation occurs, that may prove dangerous.

DR. C. S. N. HALLBERG, Chicago, considered the papers appropriate and said that the papers demonstrated that there has been no scientific work done on the veratrums since the famous controversy of thirty years ago by Mitchell and Bullock in Philadelphia. It is a fact, as Dr. Wood stated, that veratrin is used promiscuously instead of veratrum. Dr. Waugh, he said, claimed that there is a decided difference between the action of veratrum and veratrin. That is another question. The point is this: The new Pharmacopeia has placed under the generic title *Veratrum* the two veratrums, *viride* and *album*. The question is, are physicians who have been using Norwood's tincture willing to let the pharmacist give a preparation of *Veratrum album*. Dr. Wood's paper announced to the physician that when he prescribes veratrum he gets the tincture of *Veratrum viride*. It has demonstrated that there has been no work done on veratrum of recent years. Nothing is known about the active principles of veratrum, and very little of the difference between the tincture of digitalis and the infusion. When the diuretic effect is wanted they are to-day the best representatives of this drug. *Digitalinum germanicum*, on account of the name, was all the rage four or five years ago. So he thinks Dr. Hatcher was perfectly justified in calling attention to Cloetta's preparation, telling what it is or what it is not. That is the kind of work that ought to be done in this Section.

DR. R. A. HATCHER, New York City, said he was better aware of the incompleteness of his paper than any of the audience, knowing what he had to leave out, but he thinks it is very important to call attention to the fact that we are prone, like sheep, to follow the German-made advice regardless of its application. It is astonishing to look over the literature

and find how highly this Cloetta stuff is lauded by men who quoted verbatim from the announcement of the manufacturers. Cloetta suggested some years ago that he believed that digitoxin would be rendered soluble by digitonin. By going back a few years and looking over the literature it will be found that digitalin was lauded just as Cloetta's product is to-day. After all, they go back to digitalis leaves. What probably happens is, the digitoxin is held in suspension by digitonin. Mr. Wilbert's suggestion that digalen is not pure digitoxin, but a mixture of principles, or else that decomposition products have been formed, suggests that here is something more dangerous than was supposed before, since it is possible to give a very large dose unwittingly by the use of digitoxin in a soluble form.

Dr. H. C. Wood, Jr., Philadelphia, said that there is a plant known as *Theobroma cacao* from which is produced a popular beverage, cocoa. The similarity of names leads many students to believe that the chocolate plant is the origin of cocain. This ridiculous conclusion is no more absurd than that veratrin and veratrum viride are identical. Veratrum viride and veratrin have no connection, properly speaking, with each other.

## FIBROID TUMORS OF THE UTERUS.

### A STUDY OF THE DEGENERATIONS AND COMPLICATIONS IN TWENTY-TWO HUNDRED AND SEVENTY-FOUR CASES.

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PHILADELPHIA.

(*Concluded from page 2003.*)

#### FIBROMYOMATA A CAUSE OF STERILITY.

Olshausen[44] states that women having fibroid tumors are often sterile. Among 1,731 married women there were 520, or 30 per cent., who were sterile. As the sterile women are those who most frequently come under the physician's observation, the true percentage of sterility is probably lower. Small subserous fibroids frequently prevent conception by distortion and displacement of the adnexa. Interstitial fibroids form a considerable hindrance to conception, through the changes in the endometrium and the deformity of the uterine cavity which they produce. Cervical fibroids and cervical polyps usually prevent conception, although there are exceptions to this rule.

The statements of Olshausen commend themselves to all those who have large experience in dealing with fibroid tumors.

#### THE INFLUENCE OF FIBROID TUMORS ON PREGNANCY AND LABOR.

Olshausen,[44] from the statistics of numerous writers, concludes that the position of the child *in utero* is considerably influenced by the presence of myomata in the cervix or in the lower uterine segment. For example:

| Presentation. | Normal. | Fibroids. |
|---|---|---|
| Vertex | 95 per cent. | 54 per cent. |
| Breech | 3.1 per cent. | 24 per cent. |
| Transverse | 0.6 per cent. | 19 per cent. |

He quotes numerous authors concerning dystocia in labor, complicated by fibroids. Süsserott collected 147 cases; in 20 the forceps were used; 8 mothers and 13 children died. Nauss had 19 forceps deliveries in 241 cases; there were 5 maternal deaths. The mortality from version in fibroids is startling. Defour states that in 35 cases, 21 mothers and 27 children died. In Süsserott's 20 cases, 12 mothers and 17 children perished. Nauss reports 26 cases with 90 maternal deaths.

J. Whitridge Williams[45] quotes Pinard as reporting 84 cases of fibroid tumor in 13,917 consecutive labors, or 0.6 per cent. Labor was spontaneous in 54, operative aid was required in 30, and the maternal mortality was 3.6 per cent. Williams states that submucous myomata, on account of the associated hemorrhagic changes in the endometrium, predispose to abortion or miscarriage. Pregnancy also influences the tumors, causing them to increase rapidly in size, more as the result of edema than of actual hypertrophy. The softened tumors, owing to the pressure of the growing ovum, undergo changes in shape, the pedicles may become twisted and gangrenous, and peritonitis may ensue.

At labor, the effect of the myoma depends on its size and situation. Generally speaking, subserous tumors have no great significance, except when their size leads to pressure symptoms. On the other hand, a pedunculated tumor may prolapse into the pelvis and give rise to serious dystocia. As a rule, interstitial fibroids of the lower uterine segment or cervix offer serious obstruction to labor. Fibroids in certain cases seem to predispose to placenta prævia and postpartum hemorrhage. In the puerperium, myomata not infrequently undergo degenerative changes—sometimes gangrene—if they have been subjected to prolonged pressure.

The results reported after forceps and version might be and probably would be improved by substituting the Porro operation, which would not only deliver a living child, but at the same time cure the woman of her fibroid tumor.

Lack of space prevents a further study of the relation of fibroid tumors to labor, but it is well recognized that in certain cases they produce death from dystocia, from accidents to the tumor (such as twisted pedicle, necrosis and infection of the tumor), and that one of the more serious risks of labor complicated by fibroid tumors is postpartum hemorrhage, as the presence of the tumor in the uterus interferes with the normal contraction and retraction of the uterus after the expulsion of the placenta. Nevertheless, there is a general consensus of opinion among those best qualified to judge that the relation of fibroid tumors to pregnancy is most marked in the production of sterility, and that unless unfavorably situated (that is, submucous and particularly in the lower segment of the uterus or in the cervix), women with fibroid tumors of moderate size will probably go through pregnancy and labor without serious trouble. I am not familiar with statistics dealing with a sufficiently large series of cases to state the actual risks entailed.

#### COMPLICATIONS OF FIBROMYOMATA OUTSIDE THE TUMOR AND UTERUS.

In addition to the deaths which would ensue from degenerations in the tumor and complications in the uterus as a result of fibroid tumors, in 252 women there existed the following complications outside of the tumor and uterus which would have proved fatal without operation in the series of 2,274 cases:

| | |
|---|---|
| Dermoid cyst, suppurating | 3 |
| Dermoid cyst with twisted pedicle | 1 |
| Dermoid cyst, suppurating; sinus through abdominal wall from previous drainage operation | 1 |
| Ovarian cyst, suppurating | 4 |
| Ovarian cyst, twisted pedicle | 2 |
| Ovarian cyst, bilateral | 16 |
| Ovarian cyst, unilateral | 115 |
| Carcinoma of ovary | 4 |
| Papillary carcinoma of both ovaries | 1 |
| Abscess of ovary, bilateral | 3 |
| Abscess of ovary, unilateral | 9 |
| Tubo-ovarian abscess | 2 |
| Abscess of broad ligament | 1 |
| Pyosalpinx, bilateral | 33 |

44. Olshausen: "Myom und Schwangerschaft," Veit's Handbuch der Gynäk., 1897, vol. ii, p. 767.

45. Obstetrics, New York, 1903, p. 574.

| | |
|---|---|
| Pyosalpinx, unilateral | 36 |
| Pyosalpinx with tubo-ovarian abscess | 2 |
| Pyosalpinx and salpingitis | 1 |
| Hydrosalpinx with tubo-ovarian abscess | 1 |
| Salpingitis with tubo-ovarian abscess | 3 |
| Intestinal obstruction, chronic | 7 |
| Intestinal obstruction, acute | 2 |
| Total | 252 |
| | 11 per cent. |

Some other conditions would no doubt prove fatal in a certain percentage of cases, such as: Ectopic pregnancy, parovarian cyst, disease of the kidneys due to pressure, chronic anemia from hemorrhage, and intercurrent diseases superinduced by the poor constitutional condition of the patient. What the percentage of deaths would be from these various complications, which have been excluded from the table, is, of course, unknown, but it would be appreciable. In 1904, in analyzing 1,188 cases, it was stated that 18 per cent. of the patients would have died from complications outside of the tumor and uterus, as compared with 11 per cent. in this larger series, which indicates that the experience of different surgeons varies.

CONDITIONS OUTSIDE OF THE TUMOR AND UTERUS IN THE WRITER'S 337 CASES WHICH WOULD BE FATAL WITHOUT OPERATION.

| | |
|---|---|
| Dermoid cyst with twisted pedicle | 1 |
| Dermoid cyst, suppurating; sinus through abdominal wall from previous drainage operation | 1 |
| Ovarian cyst, bilateral | 3 |
| Ovarian cyst, unilateral | 24 |
| Adenocarcinoma of the ovary | 1 |
| Papillary carcinoma of both ovaries | 1 |
| Abscess of ovary, unilateral | 5 |
| Abscess of broad ligament | 1 |
| Pyosalpinx, bilateral | 10 |
| Pyosalpinx, unilateral | 6 |
| Total | 51 |
| | 15 per cent. |

CONDITIONS OUTSIDE OF THE TUMOR AND UTERUS WHICH WOULD BE FATAL WITHOUT OPERATION IN THE WRITER'S LAST 100 CONSECUTIVE CASES SUBJECTED TO ABDOMINAL HYSTERECTOMY.

| | |
|---|---|
| Adenocarcinoma of ovary | 1 |
| Ovarian cyst, bilateral | 2 |
| Ovarian cyst, unilateral | 6 |
| Abscess of ovary | 2 |
| Pyosalpinx, bilateral | 6 |
| Pyosalpinx, unilateral | 5 |
| Abscess of broad ligament | 1 |
| Total | 23 |
| | 23 per cent. |

Thus, in my total experience, the estimated mortality from complications outside of the tumor and uterus, was 15 per cent., as compared with 11 per cent. for the mixed series of 2,274 cases, and in my last 100 abdominal hysterectomies it was 23 per cent., as compared with 11 per cent. in the total series. This would indicate that the cases coming under my care not only represent the average in gravity, but are worse than the average. This is true both of the degenerations and complications in the tumor and uterus, and also of the complications outside the uterus.

In discussions on this subject following the reading of some of my former papers, there was an attempt on the part of some to cause confusion by the claim that complications outside of the tumor and uterus have nothing to do with the question of whether or not fibroid tumors should be operated on. It is undoubtedly true that this question is secondary and relative, and not primary. It is none the less a fact that of the 2,274 women, upward of 11 per cent. would have died of the complications outside the tumor and uterus without operation, and in my own experience it is true of 15 per cent. in 337, and of 23 per cent. in the last 100 hysterectomies. Therefore, the existence of these complications does have a positive bearing on the percentage of cases in which operation is required in women having fibroid tumors. Not only complications which would be fatal, but also numerous other complications enumerated in the tables, would demand operation even if the fibroid tumors were not present. With the abdomen once opened one would be more than a confirmed upholder of the legends and traditions of the profession to remove the complicating or associated conditions and to leave the fibroid tumor, when both can be removed at the same time.

The same facts might be stated as follows: The complications outside of the tumor and uterus, or if the term is preferred, the associated conditions present in women having fibroid tumors, the diagnosis of which was secondary to that of fibroid tumor, and which was perhaps obscured by the presence of the tumor, and discovered only during operation on the tumor, or from the pathologic study of the specimens thereafter, which associated conditions, if neglected or treated by the expectant plan advised by the adherents of the classical position, would have resulted in the death of 11 per cent. of the 2,274 women.

### FIBROID TUMORS PRODUCING FEW OR NO SYMPTOMS.

As indicated by the tables, at least two-thirds of all fibroid tumors are complicated. It is my observation that it is rare to encounter fibroid tumors which are not producing symptoms. If the tumors do not produce symptoms, the women do not consult a physician. Occasionally, of course, a pelvic examination is made for some other reason, such as to ascertain the cause of sterility, and in this way an accidental diagnosis of a fibroid tumor is made. But my experience fully bears out the teaching of the tables, that it is the exception for a fibroid tumor to be present and not to produce symptoms. At present I have under my care, or within my knowledge, eight women who have had small fibroid tumors for years, which have not grown and which have produced but few symptoms. All these women were advised to await events. In two of them trouble ensued: In one, a fibroid nodule became submucous and caused such active bleeding that it was necessary to do a hysterectomy at the age of 54, the operation incidentally curing a supposed neuritis in the left leg, which was merely a pressure symptom; in the other, a fibroid tumor became a polypus, was thrown off from the uterus without special pain, and was removed as a pedunculated growth within the vagina, the indication being hemorrhage. This patient still has a small subperitoneal fibroid about as large as an English walnut. Other cases of fibroid tumors have passed through my hands, refused advice, and disappeared from notice, but these eight cases include all those of which I have personal knowledge as to the relative innocence of these growths. Two of them have been driven to operation, and this may prove to be the result in the remaining six. I confess that I am still influenced by the traditions of the profession with reference to this particular group of tumors, and at the present time advise expectant treatment, with considerable doubt as to its justification.

### EXPECTANT TREATMENT IN UNCOMPLICATED FIBROID TUMORS OF THE UTERUS.

As shown by the tables in 2,274 cases of fibroid tumors, complications or degenerations existed in 1,553; that is, two-thirds were complicated cases and one-third were uncomplicated; also that in about half the cases the complications were such that an operation would be required had no fibroid tumor been present.

This represents the facts as to fibroid tumors when they come under the observation of the gynecologist.

The advocates of the traditional teachings concerning fibroid tumors will claim that this is true only of a class, and that many women having fibroid tumors do not consult a gynecologist, and that those who do not have no complications. Doubtless there is an element of truth in this claim, but, as stated elsewhere in this paper, it is far more than offset by the failure to record degenerations and complications in the reported series. So far as it is possible to arrive at truth by the statistical method, it is my own opinion that the table furnishes an under statement rather than an over statement of the facts. A careful reading of the list of degenerations in the tumor, the complications in the uterus, in the uterine appendages, in the ligaments of the uterus, and elsewhere in the abdomen, will convince the inquirer after truth that a large proportion of the women having fibroid tumors would require operation even if no fibroid tumor were present.

THE MORTALITY OF OPERATIONS FOR FIBROID TUMORS.

The risk of removing fibroid tumors by operation has steadily diminished with the development of gynecology. Recently Baldy[16] has reported his entire experience in operations on fibroid tumors, 250 operations with 21 deaths, or 8.4 per cent. mortality. In the last 105 operations there were 3 deaths, or 2.85 per cent. mortality.

Deaver[41] has reported 233 cases of operations (hysterectomy) for fibroid tumors, with 21 deaths, or 8.1 per cent. mortality. In the last 105 supravaginal hysterectomies there were 3 deaths, or 2.85 per cent. mortality.

In the Johns Hopkins Hospital Clinic (private communication) there have been 308 myomectomies with 14 deaths, 691 hysteromyomectomies with 22 deaths, or 3.6 per cent. mortality. In the last 100 cases of operation for fibroid tumor there have been 3 deaths, or 3 per cent. mortality.

In my own practice, in the last 100 cases of abdominal hysterectomy for fibroid tumor (from Dec. 22, 1900, to Feb. 26, 1906), there was one death. This death was caused by the distension of the intestines with gas, and paralysis of the heart. Autopsy showed neither peritonitis nor infection. Since Dec. 22, 1900, there have been performed 13 vaginal myomectomies, 2 vaginal hysterectomies for fibroid tumor, 11 abdominal myomectomies and (from Feb. 26 to May 8, 1906) 6 abdominal hysteromyomectomies, without a death, making a total of 132 cases of operation for fibroid tumor of the uterus, with one death, or 0.75 per cent. mortality.

In order to estimate the present mortality of operations for fibroid tumor of the uterus, we may take the recent results at the hands of each of the surgeons quoted:

**Baldy: 105 operations, 3 deaths.**
**Deaver: 105 supravaginal hysterectomies, 3 deaths.**
**Johns Hopkins Clinic: 100 abdominal operations, 3 deaths.**
**Noble: 132 operations, 1 death.**
**Total, 442 operations; 10 deaths; 2.26 per cent. mortality.**

In estimating the comparative risks of fibroid tumors of the uterus pursuing their natural course with the risks of the removal of these growths, we have, on the one hand, a prospective mortality of from 15 to 20 per cent. from degenerations and complications in the tumor and uterus, together with the secondary effects of these tumors on the economy; and, in addition, a prospective mortality of 11 per cent. from complications present outside the tumor and uterus, or a total mortality approximating 30 per cent., to compare with the operative mortality of 2.26 per cent. It would seem that there could be no question as to which is the safer policy in the treatment of fibroid tumors, and that the prompt removal of these growths is the method to be chosen.

On the other hand, the advocates of the traditional teaching might claim that as the tables indicate that only 30 per cent. of the patients would die without operation, the proper method of procedure is to operate on the 30 per cent., and to pursue an expectant plan of treatment in the remaining 70 per cent. Leaving aside the question of invalidism, which in my experience is present in a large proportion of cases of fibroid tumor, and considering only the prospect of the patient from the standpoint of the degenerations and complications in the tumor and uterus, if a woman in the group which it is proposed to treat by the expectant plan was told that under this method of treatment her chances to die of cancer of the body of the uterus were 2 per cent., of cancer of the cervix uteri were approximately 1 per cent., of sarcoma were approximately 1.5 per cent., of necrosis of the tumor were approximately 5 per cent., of cystic degeneration were 2.5 per cent., not to speak of the other less frequent fatal complications; while, on the other hand, she could have her tumor removed with the risk of 2.26 per cent., and could escape the months and years of semi-invalidism or invalidism otherwise entailed, I believe that no woman of sound mind would hesitate as to what her choice should be. Moreover, this does not represent the facts, since the most ultra representative of the classical school would operate on about half of the women because of complications or associated conditions outside the uterus, in addition to the number he would operate on on account of symptoms caused by the tumor.

It has been urged on me by various men, that, supposing all the facts with reference to fibroid tumors which have been given are true, that it is unwise to teach that these growths shall be removed unless they threaten life at the time they come under observation, on the ground that if this teaching is accepted, the occasional and inexperienced operator will attempt the removal of these tumors with a high mortality. It seems to me that the proper reply to this teaching is that science deals with truth. If the facts are as they appear to be, we should accept them; and this is not modified by the patent fact that an untrained, inexperienced, or bad surgeon is far more dangerous than almost any type of tumor. It is a misfortune for the community that all those who practice surgery are not well trained, and that many are unwilling to serve a proper apprenticeship before attempting major surgery; but while this is patent and unfortunate, it should not prevent us from acknowledging the truth.

THE INFLUENCE OF TRADITION AND THE FORCE OF HABIT AND FASHION.

It is only necessary to read the title of this section to admit the influence of tradition, habit and fashion, in the practice of each and all of us. Some gynecologists will open the abdomen for a displacement of the uterus or of the ovary, will break up a few adhesions, or will remove an inflamed Fallopian tube, a hydrosalpinx, a parovarian cyst, a Graafian follicle cyst, or a corpus luteum cyst, or will remove the vermiform appendix in the interval, when the patient is in good health, and will do each and all of these things with a clear conscience and the feeling of duty well performed, but will dispute about the conditions under which a fibroid tumor should be removed. Nevertheless a fibroid tumor is many times more dangerous to life than any of these morbid conditions.

Those gynecologists who adhere to the traditional attitude toward fibroids claim that an operation should not

be done on a fibroid tumor because of what may happen in the future, and that operation is only permissible when life is threatened by the tumor, or when the symptoms present make life miserable or insupportable; yet the same men violate their supposed principles whenever they do an early ovariotomy or remove a vermiform appendix in the interval between attacks, or remove uterine appendages for inflammation in the intervals between the attacks of peritonitis. In other words, their attitude toward operation for fibroids is the result of the influence of custom and fashion. They have accepted early operation to avoid future trouble for the other morbid conditions enumerated, but have not yet recognized that the same principle is equally applicable to fibroid tumors.

### THE IMPORTANCE OF ACCURATE RECORDS OF OPERATIONS IN THE STUDY OF FIBROID TUMORS.

In order to arrive at the facts concerning fibroid tumors, it is essential that the conditions found at operations shall be exactly recorded and that the specimens removed shall be studied from the pathologic standpoint, and the clinical diagnosis corrected by the laboratory findings. This must be done systematically in every case. If this were done by all gynecologists and surgeons, and if after two years the actual results of two years' work were published, enough material would be accumulated to decide practically every question concerning fibroid tumors. Therefore, I hope that enough men will be interested in the further study of this question to follow this method. In no other way can the facts be determined. It is my opinion that it will be found that cancer of the corpus uteri is a much more frequent complication of fibroid tumors than is believed at present. This may also be true of sarcoma, and it is certainly true of necrosis, cystic degeneration, pressure by the tumor on the urinary organs (bladder or ureters), and pressure by the tumor on the bowels.

### THE ADVANTAGES OF EARLY OPERATION.

It seems to me that the evidence presented is an ample demonstration of the soundness of the conclusion at which I had arrived in 1894; namely, that "it is the part of wisdom to remove fibroid tumors so soon as they are discovered, unless in particular cases some sufficient reason exists to vary the general rule. In other words, that the principle of early operation which is now (1894) generally accepted with reference to ovarian tumors is equally applicable to the treatment of fibroid tumors." The existence of constitutional disease may render operation inadvisable because of the risk involved. The desire for child-bearing in a young and childless woman may properly influence the temporary postponement of an operation or decide the question in favor of a myomectomy rather than a hysterectomy. In other cases in which the tumor is small, and especially when it is subperitoneal, and in which the symptoms are slight, the question of operation is still debatable. Which is the more dangerous, operation, or the risks inherent in the natural history of such tumors? I believe myself that this question must be left to the future for decision, and that the decision will depend chiefly on whether or not cancer of the uterus occurs as frequently in this particular group of cases as in the whole series. Should this prove to be true, the question will be decided in favor of operation.

It also seems to me that the evidence presented demonstrates the soundness of the teaching that a fibroid tumor should be removed because of the dangers inherent in the natural history of the disease, and not because of the particular symptoms complained of when the woman comes under the observation of the physician.

Early operation offers the following great advantages over the expectant method of treatment:

1. It saves long years of invalidism or semi-invalidism.

2. It enables women to fulfil the duties which devolve on them instead of having their activities limited in the effort to reduce their symptoms to the minimum and to prevent accidents to the tumor.

3. It avoids the risks to life from the development of sarcoma in the tumor and from the development of cancer in the uterus, more especially in the corpus uteri.

4. It avoids the risks to life from degenerations in the tumor, such as necrobiosis, necrosis, secondary septicemia; cystic degeneration; such accidents as twisted pedicle; pressure on the urinary organs; pressure on the bowels; anemia, cardiovascular degeneration, thrombosis, phlebitis and embolism; malnutrition; and the greater liability to intercurrent diseases arising from lowered vitality, due to anemia or to malnutrition.

5. It greatly lessens the risks of operation. It is only necessary to contrast the risk of removing a fibroid tumor or of performing a hysterectomy for fibroid tumor in a relatively young woman with good general health and with none of the secondary ill consequences which arise from the continued development of the tumor, to similar operations on a woman reduced by hemorrhage, or suffering from malnutrition due to disturbances of the functions of the intestine, or on women having secondary cardiovascular or renal degenerations, to appreciate what is gained by early operation.

Early operation would probably eliminate, or certainly reduce to the minimum, deaths from embolism, which are relatively so common after operations when performed late in the natural course of fibroid tumors. The mortality from operation for fibroid tumors performed early would be reduced to 1 per cent. or less, as compared with probably 5 per cent. when the operation is performed under conditions as they exist at the present time.

I would suggest that the most important questions for discussion are:

1. Shall the gravity of fibroid tumors be estimated from the natural history of the disease, from the degenerations in the tumor and the complications arising in the uterus, with the secondary effects on the general economy caused by these growths; together with the complications outside of the tumor and uterus which exist in women having fibroid tumors; or, shall the gravity of the fibroid tumor be estimated by the symptoms in the particular case when the woman comes under observation?

2. The relative risks of fibroid tumors and the operation for their removal.

3. Shall small fibroid tumors which are growing but slowly, or not at all, and which are producing few or no symptoms, be removed?

4. Shall all other fibroid tumors be removed unless in the particular case there is some sufficient contraindication?

### DISCUSSION.

DR. G. BETTON MASSEY, Philadelphia, said that Dr. Noble disarmed any criticism that might be made that figures sometimes lie by assuring his hearers of the correctness of these particular ones; but Dr. Massey thought that the proverb may rightfully apply to conclusions drawn from figures that are themselves correct. For instance, Dr. Noble classed among the degenerations which demand hysterectomy the following:

Fatty degeneration, which is a sign of spontaneous cure and a prelude to shrinkage; calcareous infiltration—a sign of arrested growth; hemorrhagic degeneration, which is invariably curable under the Apostoli treatment. The dangers of hemorrhagic fibroids, he said, have been greatly exaggerated. The late Dr. Goodell, of Philadelphia, assured Dr. Massey that he had never heard of a patient dying of such hemorrhages. Dr. Noble, he said, enumerated such conditions as intraligamentous protrusion of the tumor; a bump on the side toward the bladder; a bump on the rectal aspect, etc. Further on in this enumeration of alleged grave conditions requiring unsexing of the patient at the risk of her life are various simple uterine complaints from which most women suffer, and which are readily curable. Dr. Massey admitted that some of the complications mentioned first in these tables demand hysterectomy, but he asked that these conditions be diagnosed and operated on without subjecting every woman to an unnecessary operation. He did not think that the wrecks that result from the successful operations are worth the risks that necessarily attend this intervention between life and death.

DR. H. J. BOLDT, New York, said that in his opinion, based on a large series of cases, it is the second conclusion of the first paragraph which should decide whether or not to subject a patient to operation. There may be subjective as well as objective symptoms and both should be taken into consideration. It is true, he said, that a number of patients with myomata have malignant degeneration. The mortality attained by Noble, Kelly and others is unusually small. One per cent. is a very low rate of mortality. The danger from embolism or thrombosis does not alone rest with a large, but also with a small tumor, and it is just as likely to be found without operation. He has had two patients die on the table from a condition of that kind. Small fibrous tumors which are growing slowly or are producing no symptoms should be left alone. A fibroid tumor should always be removed if it produces symptoms interfering with the patient's well being, but fibroid tumors should never be removed if they produce no symptoms.

DR. J. H. CARSTENS, Detroit, said that if there is anything to criticise it is cervical cancer. If the patient has cancer and fibroid tumor, they are independent of each other, but when she has a tumor with sarcomatous degeneration, there is more or less danger of complications arising. The question for discussion, he said, is: "Shall we operate or not?" These patients live long, but there are other complications. For instance, a woman with a tumor who bleeds and bleeds is below par, and is liable to septic diseases of all kinds, and if she dies of pneumonia, that is blamed, but not the fibroid. If she contracts grippe, that is blamed and not the fibroid. If she had no fibroid she would not have had pneumonia or grippe, as she would have had the necessary resisting power to withstand them. Dr. Carstens had a woman come to him with a fibroid as big as his fist. It showed no symptoms; it caused nothing, and had her home doctor not found the tumor she would not have known she had it. She had not slept for two weeks; she was thinking of that tumor all day, and dreaming of it at night. She had no rest. She was suffering from this nervous condition from the effect on her mind. He advised her to have it removed and she consented. A day after the operation she was a changed woman. The second day she slept, something she had not done for two weeks. On the eighteenth day she left the hospital a new woman. The mental symptoms, he said, must be considered. Remove the tumor and the mental condition disappears. He has had fifty or more cases in the last year and a half, with no deaths. There should never be more than one death in a hundred, in his opinion.

DR. SETH C. GORDON, Portland, Me., referred to a paper which he read in 1894, in which he said that if symptoms are dependent on a fibroid, unless the patient is a young woman and exceedingly desirous of having children, he advises hysterectomy. He has seen no reason to change his opinion since then. In 1895 he read an additional paper, he said, in which he discussed the complications of fibroids, and he has not a word of retraction to make. He thinks that he is almost coeval and coequal with Dr. Noble in this work. Mundé said that he thought it was a horrible doctrine to teach. Lapthorn Smith, three years ago, said that he also thought it a horrible doctrine ten years ago, but he is now willing to confess that he was ten years behind Dr. Gordon. Dr. Gordon does not care what the mortality is if left alone. He is sure it is as much as after operation. It is wrong to allow a woman to carry a tumor around for years and to know she has it, together with the complications and troubles and sufferings connected with it. A large number are dependent on their daily labor for their daily bread. The difference between them is the difference of working in suffering and working in peace. Conservatism in surgery is for the conservatism of the woman's health. Conservatism does not mean anything to the patient if she does not get well.

DR. F. F. LAWRENCE, Columbus, Ohio, thinks that there is no greater curse than surgical tinkering. To attempt to deal with any form of neoplasm, on the theory that it is harmless, will sooner or later be classified as tinkering. A fibroid tumor is a neoplasm with many possibilities of danger for the patient. Even though the tumor may not produce direct symptoms, its insidious growth, its tendency to produce hemorrhage, a possibility of its suppurating or sloughing, the danger from pressure ultimately involving the kidneys—those things in themselves are sufficient to determine the wisdom of removal while the tumor is small. But, when to these is added such proof as Dr. Noble presented, and many, if not all surgeons, have seen occasionally, that the tumors frequently undergo malignant degeneration, it would seem that there should be little difficulty in determining action. The majority of surgeons have seen frequent deaths in appendicitis, because of the fallacious doctrine that the majority of cases did not need operation. The cause of death in the surgery of the appendix, and in extrauterine pregnancy, is the *dernier* operation. And *dernier* surgery is bad surgery. To wait in appendicitis or extrauterine pregnancy until the abdomen is full of blood or pus, and the patient septic, is not conservatism.

DR. HENRY O. MARCY, Boston, said that thirty years ago he had a patient suffering from a large uterine myoma. Besides general care, he encouraged the belief of relief from an early expected menopause. One day, after some years, the patient called to assure Dr. Marcy of her cure, but asked him to examine and tell her if her tumor was really gone. She had been under the care of Mrs. Eddy, who assured her that nothing abnormal remained. She might as well have asked if her head had disappeared, since she presented the appearance of one far advanced in pregnancy.

Dr. Marcy agreed with Drs. Gordon, Carstens, Lawrence and others that the way to cure the patient is to remove the cause of the suffering. In 1887 Apostoli came here and operated and every patient declared she was better, though they all gradually grew worse. That is another kind of that faith cure, a most dangerous thing with which to play.

PROF. A. VON ROSTHORN, Heidelberg, Germany, thought it a very difficult thing to decide on the question brought up by Dr. Noble. Those who studied surgery and gynecology about 1882, were brought up to favor conservative measures. They were taught that tumors which can be carried about for years, until the end of life, should be left alone, and that only now and then, in cases of extreme hemorrhage or degeneration or pyosalpinx, operation would be necessary, if those things interfered with the patient's well being. Because of this so-called conservatism a high mortality prevailed in this class of cases. Times have changed and every one is now able to do the work with less danger than during that early period. One extreme is a very little tumor which can just be found on examination which produces a series of symptoms that are unexpected from a growth of the small size and locality in which it originates. On the other hand, there are cases where the whole abdomen is filled with myomata which do not give rise to disagreeable symptoms. These are two extremes. The patient with the small tumor becomes worse and the other woman carries the larger tumor without pain or discomfort. It is difficult in the face of these conditions to advise operation in every case. Every one, he said, has seen degeneration and other dangerous things going on. In these cases conservatism undoubtedly would be bad. The teaching that these symptoms will disappear with the menopause must also be abolished. The cancer, which Dr. Noble attributes to endometritis, Dr. von Rost-

horn said, may also be the cause of the hemorrhagic status. He has seen very few combinations of carcinoma and fibroma. A third question is the social question. A wealthy person requires good health to live comfortably and a working person requires it to earn her daily bread.

Prof. R. Dührssen, Berlin, Germany, said that the most important points mentioned by Dr. Noble are true, according to his experiences. More patients with fibroid tumor die without than with the operation. In a series of 200 cases of myomata of the uterus he has observed that more patients died from anemia and from sarcoma than from the operation. He believes it is true, as stated by Dr. Noble, that when early operation is advised, the mortality will not be more than 1 per cent. Olshausen, who is strongly opposed to operation in cases of fibroid, says it is only necessary in 15 per cent. of the cases to do anything. Most patients afflicted with this condition believe that it is not dangerous. They all labor under the impression that the symptoms and conditions will disappear with the menopause, and on that account it is often very difficult to gain their consent to an operation. Most of the patients, therefore, come to operation in bad physical condition. The mortality, according to his experience, is very small. The best method is to tell the patient that she has a fibroid tumor, and that the mortality if not operated on is greater than the mortality after operation. This should invariably bring the consent of the patient, especially if she has any symptoms. It is important to keep these patients under observation, as it is possible for a fibroid to undergo sarcomatous degeneration, when an operation would be too late. The doctor who operates on a fibroid has a smaller responsibility than the physician who advises waiting, and if he gives such advice, it is necessary to keep the patient under supervision. He observed a case of rupture of the uterus in the scar from a previous fibroid operation, during pregnancy. If medical men consider the statistics as presented by Dr. Noble, they must agree that it is certainly scientific to advise operation in all cases of fibroid.

Dr. C. C. Frederick, Buffalo, N. Y., has done 177 operations for fibroid since April 1, 1902. The mortality has been 2.6 per cent. and out of these 177 patients two died within six hours, one death being caused by intestinal obstruction, and the other from a sloughing intrauterine fibroid, with a temperature ranging to 103 for a month before. Therefore, his mortality, excluding these cases, was 1.3 per cent. He mentioned this to controvert ideas and statements that the operation, whether it be hysteromyomectomy or simple myomectomy, is more dangerous for the patient than to let her alone. He believes that a woman is safer to have the fibroid out than she is to carry it. He has under his observation 7 or 8 women who are left out of 10 or 15 whom he has watched for years. They have tumors ranging in size from a fetal head to as large as his head. They have passed the menopause and have stopped bleeding, but have gone on through a semi-invalid course, and three of them have died from the degenerative changes that have gone on in their uterus. The others are pale and anemic and will die in a few years. Dr. Frederick believes as strongly as Dr. Noble does that a fibroid is a tumor no woman should carry. It goes through growth, adolescence and degeneration. When it comes to the period of adolescence, decay occurs and this will sap the vitality and the intercurrent diseases that usually arise are due to the presence of the debilitating fibroid. All those tumors that are in the substance of the uterine wall have a blood supply large enough for the tumor to grow, and there is a process going on not favorable to the woman and tending to invalidism and premature death.

Dr. W. H. Humiston, Cleveland, Ohio, said that up to five years ago he was conservative with a mortality of 5 per cent. Now he operates early on all cases of myofibroma and he has a *nil* mortality. He had a case of fibroid tumor in a maiden of 36 who became suddenly ill with severe pain in the abdomen. Her physician was called and found a large mass reaching nearly to the umbilicus. The woman was not aware that she had a growth. A diagnosis of fibroma of the uterus was readily made, together with a beginning local peritonitis. Ice bag and rest in bed for a few days was sufficient to relieve her of pain. Dr. Humiston advised operation and she readily consented as she had worried greatly over the fact that she had a tumor. She came at once to operation and no difficulties were encountered. Had she waited and suffered repeated attacks of peritonitis, this would have been a complicated case, with possibly a fatal result. Another case was a married woman, in good health, aged 38, who accidentally discovered a growth in the lower abdomen, reaching half way to the umbilicus. She came at once and a diagnosis of myoma of the uterus was readily made. Hysterectomy was performed, with no complications. The pathologist reported sarcomatous degeneration in one portion of the tumor. Procrastination here would have resulted in a fatality. Dr. Humiston advises early operation.

Dr. Edward Reynolds, Boston, believes that malignancy is more frequent in fibroid tumors than statistics show. As to the importance of operating on small fibroids, Dr. Noble said that the mortality of hysterectomy for fibroids is about 2¼ per cent., but this percentage, Dr. Reynolds said, includes operations on large tumors with complications. He believes that the mortality in that class of cases is far below 2 per cent. Also the dangers of pregnancy in the presence of fibroids must not be forgotten. No man can have a large and extended experience in obstetrics without having seen fibroids responsible for danger in pregnancy and labor, and this is another reason for getting rid of small fibroids in young women. He tells patients with small fibroids that if they leave the tumor alone they will have bad health and suffer constantly, and run a risk of dying from malignancy, which is greater than the risk from operation. The operative risk is more immediate, but once that has been avoided they are likely to live a long life as well women.

Dr. J. Wesley Bovée, Washington, D. C., speaking of the relation of fibroid tumors with carcinoma of the cervix, said there is one point, the relative proportion of carcinoma with and without fibroid tumors that will give something more definite as to the relative frequency. With cancer of the body of the uterus, carcinoma is increased tenfold in the presence of fibroid tumors. Surgeons are justified in deciding that it is due to the same relation between the fibroid and the new growth. He was in accord with Dr. Noble's deductions. He also called attention to the relation of fibroid tumors to conception and pregnancy. Hofmeier has given statistics showing that 11 per cent. of married women are sterile and that 25 per cent. of married women who have fibroid tumors are sterile. Abortions are common in the presence of fibroids. The dangers of hemorrhage, infection and other complications are great. Instead of 95 per cent. head presentations, in the presence of fibroid, there are only 54 per cent.; 28 per cent. breech presentations instead of 3 per cent., and 19 per cent. of transverse presentations instead of 1½ per cent. Surgeons do not wait for symptoms to operate in the case of ovarian tumors. If they find a woman with ovarian tumor they believe that operation is required. They believe the same thing in other conditions. If they find cancer of the cervix without symptoms, they would not delay because there are no symptoms, and Dr. Bovée believes the same treatment should hold in fibroid conditions of the uterus, because they do cause symptoms later. If the patient is operated on when the tumors are small she has the best chance for a good result.

Dr. C. P. Noble, Philadelphia, said that years ago when he discussed this subject, almost no one agreed with him. The change which has taken place in the discussion is most gratifying. He considered the evidence as to the serious nature of fibroids convincing to all with open minds. Eastman reported a series of 7 cases of so-called innocent fibroids; two died. Dr. Noble has had a number of cases which show the nonsense of this teaching. He recalled the case of a woman who had bled from the time she was 35 until she reached 57, and she was an invalid from then until she reached 67 years of age. She came to him because of intolerable bladder symptoms, because a calcareous fibroid had pressed so on the ureter as to destroy the right kidney, from which condition she died. Another woman bled from 35 to 55. Her fibroid became necrotic when she was about 70 and discharged into the bowel and she died of sepsis. In another case he told the woman if she would wait until the menopause she would be rid of her tumor. She returned when she was over 55 and said it had disappeared.

Three years after she was dying of carcinoma uteri, with involvement of the bowel. As to Dr. Boldt's advice to only operate for symptoms, and never because of what would happen in the future, Dr. Noble said that he (Boldt) violates that rule every time he takes out an ovarian cyst when the woman is not in immediate danger of her life; also every time he does an internal appendicitis operation; and every time he operates for pelvic peritonitis between the acute attacks. His position is a typical example of the influence of tradition and fashion in operating.

## THE PROSTITUTION PROBLEM IN ITS RELATION TO LAW AND MEDICINE.*

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Delving down into the depths of deepest depravity mankind is capable of sinking into is by no means a a pleasant or invigorating occupation. It is a rather ungrateful task to unearth and to draw to light conditions which some may think had better be left buried. Looking on this darkest side of human life, it reveals the frailty of human character with its unceasing strife between the dominant mind and carnal atavism. Just as the sunspots can not blot out the luminous life-giving properties of the most glorious of all stars, so will prostitution, dark and heavy as it rests on humanity, never be able to destroy the fate in its ultimate glorious destination.

Prostitution is as old as humanity itself. It is a mistake to maintain that barbarous peoples were not confronted with it. It did exist, although, paradoxical as it may appear, without their being conscious of it. Primitive people living in a state of nature possess a very undeveloped moral sense. The female, because of her frailer build, was considered inferior and looked on as a chattel. An absolutely uncurbed sexual life, a loose mating as a semblance of a temporary married state were the sexual characteristics of primitive man.

After the primeval status of herding, of clan and kinships—a period covering tens of thousands of years—tribal supremacy caused the foundation of communities and a semblance of social order. It is characteristic to notice that while men voluntarily surrendered their rights for the good of the common weal, they would not suffer themselves to be deprived of polygamy. Polygamy as transmitted from the barbarous people is the ever-present feminine factor in the political and sexual life of the ancients.

### HISTORICAL DATA.

We find, as far as historical data are available, that kings, notables and the wealthy availed themselves of it and that women were consecrated to the temples of the different goddesses. It is a noteworthy point that this religious prostitution, a fallacious and fraudulent sacrifice of purity to the gods, did in reality serve for the perpetration of vices of the initiated ones. The "Virgins of the Sun" of ancient Peru were in due time mustered out without losing their standing. The "Hierodules" of the Babylonians and kindred nations, consecrated to the hideous Baal-Astarte and Moloch cult with its human sacrifices, is another instance of an enforced religious prostitution, out of which the hospitable one grew. Jeremiah narrates that their women sit around the temples, offering themselves to men, and Herodot relates that once in their lives they had to betake themselves to the shrine, and, sitting around with ropes wound around their heads, accept strangers happening to be in the town. Quintus Curtius states that fathers offered their daughters and men their wives to strangers, and that within a short stay of one month these customs almost ruined the army of Alexander the Great. Of a similar nature was the Apis, Isis and Osiris worship in Egypt. Among the ancient Semites, the Hebrews only understood the great importance of sexual hygiene, introducing repressive laws against prostitution. In Numbers v, 2, it is related that those having a flow issuing from their flesh were unclean and were compelled to go outside the camp until the flow stopped and stay there seven days longer. The mission of the Hebrews to spread monotheism made it imperative for them to preserve their strength and procreative power in its ceaseless battles with their heathen neighbors. But mankind is ever the same, with weak resistance in erotics they eventually became contaminated by their neighbors. Stringent laws were introduced; religious prostitution perversities and incest were punished by death. Profane prostitution was not directly punished, but children out of such were excluded from the commonwealth up to the tenth generation, a cruel and unjust law.

With the Greeks and Romans we also observe the usual development of profane from religious prostitution. The latter was idolized by works of art and glorified by the sages of the nation. Strange, freed women, and in a minor proportion native women, vied with each other to become priestesses of the shrine, calling themselves Aphrodite Urania, or servants of ideal love, in opposition to Aphrodite Pandemos, devotees of profane love. They, especially the former, were known as Hetaires, and were cultivated women, well versed in the arts and in lewdness. Pindar dedicated odes to them, Pericles languished in the arms of a Phryne, who, in turn, served as a model to Praxiteles' greatest creation, the statue of Aphrodite.

These women had no legal rights, they were compelled to live in special quarters, to wear special garb, and to pay for the franchise. The introduction by Solon of legalized prostitution was the outgrowth of a fallacious reasoning, prevalent yet, that its existence would protect respectable women. It was also directed against over-population. In Rome the Venus cult was the prototype of religious prostitution from which the profane one also developed. The Romans availed themselves of the doubtful advantage of computing the sexual vices and crimes of the then ancients into one composite dungheap of immorality. The ideal aspect of the Greek prostitution was here wanting. Collection of revenue was the chief purpose. They had their brothels (lupanaria and fornices) and free-living prostitutes (meretrices and prostibulæ). An erstwhile warrior nation soon became deprived under their degenerated and homosexually afflicted emperors. According to Martial and Tacitus, there was not a virtuous girl in Rome at that time. The legal status of these women was a very lowly one. The same iniquity which creates an article of lust and then condemns it to civic death was characteristic of the law at that time as it is to-day. Alexander Severus introduced a morals-police. Prostitutes and fallen free women had no right to dispose of their property, had no control over their children, no right to hold office. They could not give oath or make ac-

* Read in the Section on Hygiene and Sanitary Science of the American Medical Association, at the Fifty-seventh Annual Session, 1906. Other articles appeared on this subject Oct. 20 and Dec. 8.

cusation. Notwithstanding all these efforts, the evil could not be curbed.

As Rome became a world power, her civilization as well as her immorality permeated the conquered possessions. The descendants of the early Teutons, to whom religious prostitution was unknown, and whose chastity Tacitus extols, soon became contaminated. A decree of Baccarat I (A. D. 600) stipulates the penalty of being beaten with rods for prostitutes. Under the Merovings and Karolingians prostitution was a vagrant occupation, increased by pilgrimage to Rome and Jerusalem. The clergy and notables sank into the grossest immorality, and even Charlamagne, who in his "Capitularies" waged war against it, lived in polygamy. The loose morals of the Crusaders, who under the cloak of religion, ransacked and fired property and abused and raped women, were another fertile source of depravity. In the French Crusade of 1180 not less than 1,500 lewd women accompanied the soldiers. The army of the Duke of Alba marching against the Netherlands had with it 400 mounted and 800 prostitutes on foot marching in rank and file behind their own flag.

The naivest conception of prostitution was held by the medieval minds. To preserve the purity of the family and to collect revenue were the two incentives. The weekly revenue of seven German pfennigs from a brothel in Schwabach went toward the payment of the preacher. In 1482 the Bishop of Mayence complained that his income had been curtailed since the town kept the revenues from houses of ill-fame. And it is chronicled that in the sixteenth century the papal chamber collected 20,000 ducats yearly from the same source. When Emperor Sigismund, in 1414, visited Berne with a retinue of 800 horseguards, the freedom of the town houses was tendered them, which was highly acknowledged by the Emperor in a letter.

In spite of this toleration to the limit, the women of ill-fame were regarded as dishonorable and beyond contempt. Here, too, we again witness the old iniquity. These women lived under the jurisdiction of the hangman and their status was regulated to the smallest detail, but they were not absolutely outlawed. On the other hand, the same church which denied them a decent burial permitted them to worship in their edifice, and accepted, as did the cathedral in Ulm, a consecrated candle yearly from the proceeds of the town brothel. By this seeming inconsequence the church intended to point toward an ever-open door for salvation, and the state joined these sentiments by the erection of houses of refuge for repenting sinners.

These casual enumerations which could fill volumes are mentioned here to show that vice in the middle ages was regarded as nothing evil so long as it was kept within bounds. The main aim of this tacit toleration was to keep family life pure and decent women unmolested and the too willing adherence to the Galenic teaching that continence is dangerous.

With the reformation an ascetic trend took hold of the people. Luther waged a merciless war against houses of ill-fame. Henry VIII, in England, suppressed them. France, in 1560, abolished them, Berlin in 1607 closed them, in turn to be reopened, and abolished again.

At this time a hitherto unknown scourge, syphilis, decimated the terrified people, and the combination of both circumstances changed the people to lead a more moral life. This promising change was ignominously cut short by the outbreak of the Thirty Years War and later of the Seven Years War. The debauchery of the Crusaders came into existence again through the infuriated soldiery and uncurbed religious fanaticism of the population. The loose morals of the French courts under Louis XIV, XV and XVI and the Russian court under the Catherines contributed toward the immorality of that age. A reaction took place in the eighteenth century. Maria Theresa of Austria created the ill-famed morals-police ("Chastity Commission") to eradicate the evil. Its spies, however, misused their powers shamefully, as do the different vice-squads of to-day, and a well-meant but poorly-conceived effort had to be abandoned, as those of the Utopian moralists of to-day ought to be. Frederick III, in 1690, directed that all prostitutes be sent to the workhouse. It was all in vain. In 1700 the brothels were reopened again, closed again and finally abolished in 1854. The viewpoint of the authorities on the continent was then what it is to-day, namely, prostitution is an inevitable evil that must be tolerated and so supervised as to lessen its sad moral and hygienic consequences.

### THE ADVENT OF CHRISTIANITY AND FACTORS IN PROSTITUTION.

We have seen in the foregoing fragmentary details humanity permeated through all ages and races by venal and illicit sexual life, and the evolution of prostitution from the pious to the profane form. With the advent of Christianity, sacrifices of life or virtue became extinct and devotion to God was evidenced by prayer, righteousness and morality. This last requirement however, was and is a sadly labile virtue capable yet of great improvement. The question then stands as follows: Is prostitution entirely eradicable? History has amply shown this to be impossible. There is present on one side an atavistic dormant propensity toward polygamy in man, a developmental defect as it were, mitigated by religion, education and self-control; and, on the other, an almost extinct inclination for polyandry in the female, present in an almost negligible quantity. Taking, then, this minor part as predestined, as a type which remains constant everywhere, probably caused by the survival of primeval cell types in the brain, we are enabled to account for the presence of that portion of the female factor in prostitution. Let us call this the anthropologic factor of the vexed question. A major part will include such women as possess only the slightest attributes of such stigmata; under favorable circumstances these remain innocuous, but under the influence of adverse socio-economic conditions may make the character one of lesser resistance. These I would call the circumstantial factors, yielding the occasional prostitute. Yet another part recruits itself from otherwise favorable conditions, girls who are attracted to prostitution by the luxury and ease it promises in opposition to the toil and meager returns of their vocation. The latter may be called the industrial factor, and its devotees, prostitutes by choice.

The male factor of prostitution is held to be the sexual hyperactivity of men, creating a demand which is met by a supply. This proposition is not absolutely correct, because I think this should be met, although not in an equalizing proportion, by the higher sense of morals in women developed in them through ages. Whatever minus remains between these two disproportionate traits must of necessity be imputed to men. Here is where the so-called social conscience must be awakened. There is reason to believe in the advent of a time—let us hope not too far distant—when the virus of this moral weakness will be so attenuated by the immuniz-

ing serum of a sublimer conception of sexual morals, that masculine vice may no longer play an integral part in the prostitution problem. Even after such a change to the better the feminine factor will not entirely cease to produce its quota, although this will be lessened.

### WOMEN IN INDUSTRIAL LIFE.

Another source of prostitution is the entrance of women into industrial life. For centuries she was surrounded by home life and home industries. Then the spinning wheel gave way to the loom in factories, the needle yielded to the sewing machine, the individual worker changed into a "hand," producing in the factory a certain part of the whole. Women have entered the professions, arts and literature with success. She has gained independence, but is lost to family life and its beneficial influences. The strife for self-support has exposed her to dangers against which she must develop defensive measures. In competing with the male element she has demolished his inherent sublime adoration toward the sex and his indulgence toward her frailities. Besides this, the maintenance of the population is sadly encroached on. But these are transition stages, symptoms of new conditions, which will ultimately equalize themselves satisfactorily. Meanwhile the state does and must lend woman a helping hand by mercantile, factory and compulsory association and mutual aid laws.

### HOUSING FACILITIES.

A further cause of prostitution are the poor housing facilities and lack of privacy in the dwellings of the poorer classes. The adolescent are involuntary witnesses of conditions which blunt their moral perceptions. The etiology and pathology of many cases of beginning waywardness can be found in this promiscuous cooping up in sunless, cheerless quarters. In some districts in New York the average is 3.7 rooms to a family. Of 13,657 families, 13,079 are without bathing facilities. Among 270 colored families in Brooklyn, there are, according to the Rev. Dr. Laidlaw, only 6 bath tubs and 231 families have no modern toilet conveniences. About 1,250 cubic feet of air is provided per room. The average size of a tenement family in New York is five, and sometimes there are boarders in addition. Among Italian garment workers from 2 to 3 families, making a total of from 10 to 15 individuals, occupy a single room. Of the 3,437,202 inhabitants of Greater New York, 2,372,079 persons, or more than two -thirds of the population, live in 82,652 tenements. In one precinct not more than one mile square, 60 well-known centers of prostitution were found. By drastic penalties—a $1,000 fine—exacted from the landlord, this condition has been greatly ameliorated lately. In Berlin, two-thirds of all the dwellings contain two rooms at the utmost, and are inhabited by 1,286,903 people, that is two-thirds of the total population, numbering 1,827,477. In the same city 61,765 households had 98,022 lodgers, and 1,955 households contained in one single room, parents, children and lodgers up to ten, and sometimes those of different sexes. In Breslau there are 7,279, in Dresden, 6,708, in Hamburg, 5,843, such over-populated households.

In our country, where the police do not enforce reporting of every tenant, boarder or lodger as soon as he hires the premises, statistics on this point are not available and we have to depend on the census, which is taken every ten years.

### CHILD LABOR.

From the ranks of minors a no small amount of prostitutes are recruited. The wretched children of the lowly poor, exposed in this way to the debasing influences of squalor and vice, are driven to the street by the necessity of earning money. The boys sell newspapers, the girls, if lucky, find employment at starvation wages, or else have to shift for themselves. Commingling with the other sex, without a moral backing of salubrious home influences, ill-fed and ill-clad, they fall victims to their own and their male associates. Here is where the unspeakable "cadet system" reaps its harvest.

Child labor is another source from which prostitution of minors develops. Child labor is on the increase in the United States. Where there were a few years ago 24,000, now 80,000 are at work. The child-labor laws in various states are very different. In New York the minimum age limit is fourteen, in the South ten years. Congressional legislation, by establishing a national child-labor bureau, will remedy these abnormal condition.

### EMPLOYMENT AGENCIES AND MIGRATION TO CITIES.

Employment agencies are another source of prostitution, especially for the immigrants. Their fraudulent advertisements, the practice of sending women to disorderly places or otherwise misleading them, has lately developed into a veritable "white slave mart" for the pandering of girls. In New York state much good will be done to better these conditions by the passage by the legislature of the Prentice bill.

The trend of migration to the large cities is another incentive to prostitution. The seduced country girl comes thither or leaves home, which to her means grinding drudgery without relaxation. Or she is driven away by the carelessness of her parents, or because of a cruel step-mother or a degenerate step-father. Often she is illegitimate and leaves when she is old enough to understand her position, which is cruelly thrown up to her. In other instances, laziness, vanity, levity or an inclination to overstep her station; occassionally a married sister in the city or the gold-brick tales of an already initiated woman tempt her or her continental immigrant sister to betake herself there. Here she is swallowed up in the maelstrom of pulsating city life. Fortunate she is if she obtains a position as a domestic, which these girls, however, dislike, or gets work in the industrial branches, if she is skilled. She usually becomes a starvation wageworker only able to engage a sleeping place amid squalor and poverty. A strike, a lock-out nullifies her scanty earnings. Life and body must be sustained and if the girl has a character of lesser resistance the occasional, and sometimes the professional, prostitute is created.

### ABOLITION VS. REGULATION.

The infinitely complex make-up of our social fabric, necessarily incapacitates any attempt, even approximately, to enumerate the sources of the social evil. Cause and causation are so interwoven in an inextricable mesh-work of logical factors, of which only the crudest ones are perceptible to us, that the major part is beyond our power of observation. Just as our retina can not perceive the ultra-violet rays of the spectrum, so are our logical powers limited in certain directions. Anthropologic, religious, racial, climatic, moral, economic and social factors converge to bring forth the

prostitute. Where is the human mind that could penetrate into these depths and dissect and join together the sequences?

From a sanitary point of view prostitution must be regarded as the main source for the spread of venereal disease, a clearing house as it were, from, toward and through which courses in an unbroken vitiated stream the poison which inoculates the living, blinds the babe in entering this world and taints the yet unborn, stamping on the innocent countenance its stigmata of degeneration. In comparison to this all other modes of propagation are almost *nil*. Therefore, the sanitarian endeavors to minimize its dire consequences: the spread of venereal diseases.

The strife between abolitionist and regulationist is a useless battle between two well-meaning parties. The animosity, not to say intolerance, which is exhibited by the former and which almost wrecked the last Brussels conference, is significant of an over-passionate zeal which sees a heretic in every opponent. No such an over-ebullient warfare can be found in the ranks of the latter, mostly medical men. The chasm between the two factions is only an imaginary one. The sanitarian, especially the English and American, is an abolitionist in the sense that he too would like to see prostitution eradicated, where the abolitionist commands it to be.

Sanitarians know the inefficiency of regulation, the impossibility of controlling clandestine prostitution; the false security it lends; the arbitrary power it gives the police, and the impossibility for an inscribed woman to return into orderly society. In this country, attempts at regulation have signally failed. St. Louis tried it in 1872, and an attempt was made in Buffalo and Philadelphia in 1902. Detroit and Cincinnati have a regulation somewhat after continental plans. In the Philippines the issuing of a health certificate to a woman and the regular inspection of soldiers for the same purpose is in vogue. Venereal diseases have since diminished there. Here then the most fervid abolitionist finds his ideal materialized, inasmuch as both sexes are examined, but notwithstanding this, abolitionists indignantly oppose the general order.

It is in this rigid adherence to abstract reasoning the difficulties between the abolitionists and sanitarians commence. On the socio-economic factors both factions agree. The ethico-moral components of the question, however, are continually clashing with the sanitary-medical one. The sanitarian is imbued in no lesser degree than the moralist with the ideals of purity, but his attitude is a loftier one, because he stands nearer the reality, his standpoint is a godlier one, because he ministers to the dejected soul and diseased body. The "crucifixion of the flesh" could not even be accomplished by the apostles, according to Paul (Romans, 7, 25). It behooves, therefore, that the inflexible position of the moralist should give way to compassion, and to the conviction that under the existing social iniquities, human nature is slow to change from the inherited taint of ages. To regulate the social evil by exclusively ethical means is impossible. The virus that permeates society needs a quicker remedy. Moralists and sanitarians must meet by mutual concessions on a common platform. There are excellent points in each system, but better ones yet in a blending of both.

### REMEDIES.

The remedies against the social evil can only be symptomatic and are just as manifold as its causes. We must try to apply to the enumerated causes, the antibodies that may neutralize the symptoms.

I have dwelt elsewhere[1] on some feasible modes of venereal prophylaxis, to which I direct the reader's attention.

The attitude of *law* to prostitution has been in part alluded to already. In the main the law of all civilized countries does not punish prostitution as such, but is punitive towards its correlates; the procurer and keeper of houses of ill-fame. It is the divergency between the high moral standard of marriage exacted by the Scriptures and the prevalent customs, brought about by the already mentioned developmental defects in man, which causes this unfortunate condition. The state does not recognize any other union and its consequences. It does this not for ethical reasons alone but for the selfish purpose of having the race perpetuated. In this, however, the state is inconsequently partial. The atavistic tendencies the state can not extinguish, the economic requirements for an early marriage it is powerless to grant. Yet with two negative premises the state has the temerity to exact continence until economic independence to enter marriage is reached. The consequence of this coercion is two-fold. Men would either be condemned to absolute sexual inactivity when the strongest of impulses throbs through their veins, which is impossible or, in order to avoid illicit intercourse, men would marry without possessing the maturity of age and the financial means for a promising union. This, of course, is a subterfuge. The state should discourage such marriages. In an investigated number of cases Lillian Brandt in her book, "Family Desertion," reports that in a group of 564 marriages, 30 per cent. of women and 10 per cent. of men married before they were twenty. Seven of the women were fifteen years old. In nine cases men had been forced to marry in order to legitimize the child. The children of such marriages are a burden to the community and the contracting parties will belong to the so-called social deficit. Such conditions give rise to meditation because they in turn will lead to prostitution. Moreover, not every marriage is a moral one. The so-called reason marriages, marriages by design, for money, by coercion, to gratify lust solely, marriages in which procreation is tabooed, which in a way resemble prostitution for its aim to satisfy mutuality only; the countless divorces indicate sufficiently that not everything that custom sanctions is moral. After all, custom is nothing but the acts which the majority of people practice and the sum total of uncodified rules, to which they voluntarily submit. A deed which is culpable is not necessarily an immoral one (political crime, duelling). Again, not everything that remains unpunished by law is necessarily moral (drunkenness, contracting deaths). Criminal law and moral law emanate in some respects from different viewpoints. The custodian of the first is the law, serving as a material check; that of the latter, ethics and morals, a metaphysical check. Both kinds of laws diverge at times.

It is painful to admit that prostitution is an inevitable and socially and physiologically an only too well-defined form of sex relations. Its survival alone testifies to it. I do not attempt to discuss its right of existence. I simply state the fact that it does exist. I further admit that it is a degenerative form of sexual life, degrading its participants and spreading venereal

1. "Venereal Prophylaxis That Is Feasible," THE JOURNAL, A. M. A., Jan. 24, 1903.

diseases, a menace to progress and civilization, if its consequences are not stopped.

The state feels the weakness of its position and tacitly tolerates the inevitable evil, the punishment of which does not strictly lie in its province. The law should step in when vice exhibits itself in a provocative and indecent manner in person, print or lascivious illustrations. The state looks on the keeper of a house of ill-fame as a provoker of vice, consequently it punishes him as a purveyor of unlawful deeds. It does so with the hotel proprietor for an occasional rental of room for the same purpose. Even the private premises of the prostitute constitute a house of ill-fame in the eyes of the law. The tolerated, unpunished vice is made punishable at the very time it is practiced within four walls. What an inconsequence!

Where shall vice be consumated in order not to offend public decency? True, the state is not obliged to promote its practice, but, on the other hand, by persecuting it and hunting for it in its privacy, the state is driving prostitution to the street, from which it intended to make it disappear.

I advise, therefore, absolute non-interference unless public decency is interfered with. Through this wide moderation and limitation of its powers, the state need not fear the reproach of the moralist that it countenances the evil. This is a syllogism. The state deals with other transgressors, thieves, robbers, etc., why should it be accused of conspiracy with vice when it does not deal with its exponents, when it ignores them? When the state promises immunity to the state witness, it certainly bargains with vice. Why should its inactivity in this respect be thrown up to it?

Let the moralist and the sanitarian make peace with each other. Let the moralist not approach this question from an untenable and too transcendental ethical point of view, and let the sanitarian remember that sanitation and ethics are paramount and compatible with each other.

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## ETIOLOGY OF THE SOCIAL EVIL.*

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NEW ORLEANS.

When I speak of prostitution I do not limit the term simply to the avowed prostitute, but I include equally the clandestine prostitute. If we want to go back to the actual cause—the prime cause, as I understand it—of prostitution we need not go into the details, as these have already been touched on both directly and indirectly in the other papers, but can say, broadly, it is civilization.

Prostitution is just as old as civilization, and will continue to exist as long as there exists what we to-day claim and boast of as civilization. I apply that fact in three ways:

1. *Men, guided by the prevalent usages of civilization, either can not or will not marry when the natural sexual impulse has attained its proper force and calls for mating.*

While I agree entirely with the spirit of the resolution which has been passed here, that continence is not incompatible with health, still I do believe most firmly that the individual is not absolutely in his normal state when unable to copulate in a natural way, to a reasonable extent, nor can we expect him to submit ordinarily to what I consider an unnatural condition: that is, that of constant repression of his natural impulses and desires, those which have been given him, after all, just as all his other functions have been bestowed on him. So, while I repeat, and I do not desire to be misunderstood, that continence is perfectly compatible with health, yet the individual is not at his best and is not living a perfectly natural, normal life if, after those instincts and functions have developed, he is unable or unwilling to indulge therein.

As long, consequently, as a man either can not or will not marry, owing to the demands that are made on him through the usages of civilization, so long will a certain proportion of individuals infringe on the normal laws; and, unfortunately, just as long as the demand remains sufficiently pronounced the supply will be forthcoming for the violation.

2. *On account of the usages and necessities of civilization, when men marry, or women, too, taking "man" in the generic sense, they either can not or will not follow the laws of natural selection.*

They can not or will not be guided simply by their natural desires and inclinations, but marriages are made on one side or the other, or both, for other reasons. That is, the individual selects a partner whom he or she thinks useful or an aid in other ways than simply the higher relationship which should exist between man and wife. I do not mean simply the sexual relation, but true companionship, the higher point, of course, and sexual union for the procreation of children, which is, after all, what marriage should be.

But so many other things come into play that either the man alone, not having the companion that he should, strays off, or (unfortunately) frequently the woman, too, who for various reasons has married a man (let us put it perfectly plainly, as we have to in speaking of these things), say, who is too old for her, will, sooner or later (a certain proportion of them), find a younger and a more fitting companion; of course, after the first fall future ones are progressively easier.

3. *The unnatural sexual lives that are often lived, due to the usages of civilization.*

Either on one side or the other, if not on both, there is a desire to prevent or interfere with the natural result of married life: that is, conception, the procreation of children, and as long as it becomes necessary for either one or the other, or both, to take steps to prevent this natural result I think we are leaving the door wide open to the stimulation of prostitution, because, especially with the male, those of us who have a large experience in the treatment of genitourinary diseases can say, I have no doubt, without any hesitation, that if the male is unable for any length of time continuously to indulge in normal sexual intercourse, but has to fall back on a more or less unnatural process at home, the time will come when he will manage to indulge in the normal way somewhere else. This may be very sad, it may be all wrong (I am not discussing that point), but it is a fact; it comes sooner or later.

Consequently we always come back to civilization as the true cause of prostitution. Any others, in my estimation, would be details and exceptions and should not count. The civilization of to-day leads us to live abnormal and unnatural lives, especially in regard to sexual matters. That is the cause of prostitution away down at the bottom.

* Read in the Section on Hygiene and Sanitary Science of the American Medical Association, at the Fifty-seventh Annual Session, 1906. Other articles appeared on this subject Oct. 20 and Dec. 8.

It is not for me to go into the question of the remedy, Others have already presented it; others will again consider this question. The subject assigned to me was simply to state the cause of the evil. It is a question, then, if all this be true, whether, through science, through education, through the efforts of the medical profession, we can (more or less imperfectly, I am afraid, always, at best) get people back to leading natural lives. If we do that, though the task is, I fear, next to impossible, it is, in my opinion, the only way that we can do anything to put a stop to or at least greatly diminish prostitution.

## A PRACTICAL LESSON IN REGLEMENTATION.*

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The matter of restriction of venereal diseases was called to my attention six years ago, by the manager of the Minnesota Iron Company, which is now a part of the United States Steel corporation.

The company owned mines and employed men on the Mesaba and Vermilion Iron Ranges in Northern Minnesota. Hospitals were built and physicians were appointed to look after the sick and injured. The business policy of the management was to keep the mines constantly in operation.

All sanitary and hygienic matters received marked attention; epidemics were stamped out or controlled as soon as possible. The company owned a majority of the houses in which its employés lived, which fact gave it autocratic power.

Complaints reached the management that the efficiency of their working force was badly crippled by many of their men being "laid up on account of some woman disease."

As physician in charge of one of their hospitals, I was requested to make investigation and to devise means to assuage the difficulty. The inhabitants of the district were largely foreigners, with foreign habits and a meager knowledge of the English language. These facts, coupled with the use of different names and check numbers made the task of controlling the male disseminators extremely impracticable.

The houses of prostitution were located on company property, and if desired, could be removed; but this was not considered advisable. There being no law to regulate houses of prostitution, it was thought best to interview the keepers of these institutions. We found them very willing to co-operate with us in an effort to minimize the dangers of what was considered a necessary evil. Accordingly a system of inspection of the inmates was agreed on.

### HOUSE AND INDIVIDUAL INSPECTION.

Previous to July, 1899, no attempt was made to detect venereal diseases in these houses, nor in any manner to control their inmates, other than to keep order by police regulations. Since the above date the women have been regularly and systematically examined. A brief history relative to their physical condition was taken; mouth, teeth, superficial glands, skin and scalp were inspected; a thorough examination of the vagina, vulvovaginal glands, tubes and ovaries was made; one or more glass slide specimens of urethral and uterine and vaginal secretions were also secured. These secretions were dried and placed in a marked envelope and taken to the hospital laboratory, where they were stained for gonococci by the use of eosin methylen blue and Gram's method. The results of the examination were filed on a history sheet for future reference. All women found diseased were prevented from soliciting patrons, and placed under treatment; those who could not be treated at the office were admitted into the hospital and kept there until all evidence of active disease had disappeared.

The male disseminators when found by the women, were advised to consult a physician and expelled from the house; the women were taught to recognise the diseases, and many displayed considerable skill in diagnosing both acute and chronic venereal affections.

When the male patients consulted the physicians, they were asked in which house they contracted their disease and to give the name of the woman.

Complaint was made against the house (if an inspected one), the woman was sent to the office for an examination; the man's name was taken for identification.

All indebtedness incurred by the women was borne by the keepers of the houses, and in a few instances, when it could be proved that the woman deliberately infected a patron, the man's medical bill, and occasionally his board while he was incapacitated, were settled for by the guilty woman. Every effort was made to keep the woman under observation; formerly the infected continued to solicit, or if so ill that their usefulness was impaired, they were disposed of in various ways. Many were sent to their homes, or to other similar boarding houses.

Many of the women, when forced from the houses, secured rooms in the town, to continue their vocations until deserted by their friends. In two instances the desertion was followed by attempted suicide, one of which was successful.

Unfortunately, the record of the first inspection was not attainable. The following records of inspection were taken March 31, 1904, and Dec. 27, 1905.

As this particular house had been under medical control for three years, the inmates were found in a much better condition than those examined at the time of the first inspection, July, 1899. Two-thirds of the inmates were found diseased at that time. The class of prostitutes found on the Iron Ranges could not be worse, many of them having been expelled from the larger cities physical wrecks. On arrival, when informed that they must submit to an examination, a few (who were probably infected) would refuse and depart. The women who were found diseased, were treated and cared for in the same manner as the old inmates. It was seldom that a woman was forced out on account of being diseased.

### RECORDS OF INSPECTION.

The women examined on March 31, 1904:

CASE 1.—A recent arrival. There were found papular syphilides, erosion of the cervix and mucous patches in the mouth. She was restricted from soliciting and placed under treatment.

CASE 2.—Endocervicitis was found; no veneral disease was discovered.

CASE 3.—No venereal disease was discovered.

CASE 4.—No venereal disease was discovered by inspection; smear showed gonococci. The woman was prevented from soliciting and placed under treatment.

CASE 5.—Active syphilis was found. The woman was then under treatment. She had had gonorrhea one year previously.

CASE 6.—No venereal disease was discovered.

* Read in the Section on Hygiene and Sanitary Science of the American Medical Association, at the Fifty-seventh Annual Session, 1906. Other articles appeared on this subject Oct. 20 and Dec. 8.

Case 7.—No venereal disease discovered. The woman had had metrorrhagia for two months. Curettement was advised.

Case 8.—No venereal disease was discovered. The woman had had chancroids.

Case 9.—No venereal disease was discovered.

Case 10.—No active venereal disease was discovered. The woman had had syphilis six years previously.

Case 11.—The woman complained of pain in the lower part of the abdomen. Examination discovered an enlarged right tube and a large exudate in the posterior cul-de-sac; pus was found in the urine. She had had syphilis. An operation was advised.

Case 12.—No venereal disease was discovered.

Thirty-three per cent. of these women had active disease; 50 per cent. gave a history of venereal disease.

RECORD OF THIRTEEN WOMEN EXAMINED ON DEC. 27, 1905.

Case 1.—This woman was admitted into the hospital Dec. 27, 1905. A hernial protrusion was found at the site of an operation performed in 1903. The woman was admitted to the house June 2, 1905, and remained free from disease until Dec. 16, 1905, at which time a slide specimen of uterine secretion showed gonococci. Slide specimen taken January 11, 12 and 13 showed absence of gonococci. Specimen taken on January 19 was negative for gonococci. This slide showed a specimen of *Trichomanas vaginalis*.

Case 2.—This woman was admitted to the house Aug. 15, 1905. She had been ill for three weeks, but had been soliciting up to the time of admittance. Examination of a slide specimen showed the presence of gonococci. Patient was placed under treatment at the house. As her condition did not improve, she was sent to the hospital Sept. 27, 1905, where she remained for 23 days. Slide specimens taken three days in succession were free from gonococci and she was discharged. Examination Dec. 27, 1905, was negative for gonococci though endocervicitis was present.

Case 3.—This woman was admitted to the house Jan. 24, 1905. A vulvovaginal abscess was found discharging pus which contained gonococci. The abscess was freely opened and the cavity cauterized. Examinations thereafter were negative for gonococci.

Case 4.—This woman was admitted to the house Sept. 27, 1905. She gave no history of disease and was found free from it.

Case 5.—This woman was admitted Dec. 20, 1905. A perirectal abscess was discovered; operation was refused. The abscess opened spontaneously. A slide specimen was negative for gonorrhea.

Case 6.—This woman was admitted Jan. 24, 1905. She gave a history of syphilis three years previously. No evidence of disease was discovered. She remained free from disease Dec. 27, 1905.

Case 7.—No disease was discovered.

Case 8.—This woman was admitted Nov. 22, 1904. She gave a history of gonorrhea. She was found free from disease and remained so until Dec. 27, 1905.

Case 9.—This woman was admitted Nov. 22, 1904. She gave no history of infection. She remained free Dec. 27, 1905.

Case 10.—This woman was admitted Nov. 1, 1904. She gave a history of chancroids. No disease was discovered. On March 28 complaint was made. Examination was negative. She remained free from disease Dec. 27, 1905.

Case 11.—This woman was admitted Aug. 15, 1905. There was no history of venereal disease. She remained free at the date of examination.

Case 12.—This woman was admitted July 21, 1905. She gave a history of having had gonorrhea. No disease was discovered. Complaint was entered Dec. 11, 1905; a slide specimen for gonorrhea, the disease for which complaint was made, was negative.

Case 13.—This woman was admitted Sept. 27, 1905. There were no complaints and no symptoms of disease. A slide specimen examined Jan. 5, 1906, showed gonococci. She left the house the next day.

Thirty-one per cent. of these women showed active disease and there was 61 per cent. with a history of disease.

STATISTICS.

The percentage of active cases found between the commencement of the statistics and the date of the last examination does not show much improvement, although allowance should be made for the greater number of diseases discovered which should naturally follow increased experience of the examiner. A comparison with the record of the inspection in 1899, would have been of greater interest.

The results of these two inspections may be taken as an average result of the many such, taken from March 31, 1904, to Dec. 27, 1905. They demonstrate the probability that sooner or later all the inmates of a house of prostitution will become infected; also the frequency of disease and its character, and the assistance given by the use of the microscope in determining it.

The following statistics comprise the results of the examination of seventy different women, from one of the four similar places, from March 31, 1904, to Dec. 27, 1905:

The number of cases of acute syphilis contracted while the women were inmates of this house was found to be one. The number of cases of syphilis contracted outside of this house, which came to it infected, was five.

The number of cases of acute gonorrhea contracted while the women were inmates of this house was five. The number of cases of acute gonorrhea contracted before entering this house was four. The number of women having complications of gonorrheal disease, contracted before entering this house was four. The number of cases found free from venereal diseases by inspection and microscopic examination of slide specimens, though all had endocervicitis, was thirty.

The number of women free from acute disease, though with history of infection, and many of whom bore evidence of the surgeon's knife, was 21. The number of cases having both syphilis and gonorrhea was six.

Total number was 70; total number of acute diseases, 15; total number of chronic diseases, 4. Percentage of cases with acute venereal disease, 21.3. Percentage of cases with history of venereal disease, 57.

Appreciating the possibility that many cases of disease escape detection, the above methods will be supplemented by the use of culture media.

I am indebted to my former assistant, Dr. J. P. Sedgwick, now of Minneapolis, who will place at my disposal the Wasserman culture medium.

Of the total number of cases occurring in my practice during the period of time covered by the statistics (less than two years), eleven were contracted at an inspected house; forty-eight at three houses not inspected. Nineteen patients contracted disease outside of any house of prostitution; thirteen contracted disease outside of the city.

AMOUNT OF VENEREAL DISEASE.

The ninety-one cases of venereal disease met by a physician who did not make venereal diseases a specialty, and in a community of a few thousand inhabitants, gives some idea of the enormous amount of venereal diseases to be found in more populous localities.

The fact was thoroughly appreciated that when we controlled the women we reached but one-half of the disseminators. One illustration of this fact brings to mind the case of a young woman recently married, who came to the hospital for treatment. She complained of a painful micturition and leucorrhea. When questioned she broke down, cried and finally stated her troubles, concluding with the statement that her husband accused her

of giving him something. Examination of the leucorrheal discharge demonstrated gonococci; she was informed of the nature of her disease and its dangers, also the probable source of the infection.

The theoretical and the practical sides of the subject of the restriction of venereal diseases are distinct. Of the necessity for making the attempt at restriction, there can be no doubt. All can recall instances where the young bride was doomed to invalidism, and in which physicians were morally responsible for the inevitable infection.

The registration of all venereal patients reporting for treatment, as a means of safeguarding against the dissemination of the infection, has been exploited as a valuable measure, but that it presents difficulties is illustrated by the following case: A young man of high standing, intellectually and socially, who being about to contract marriage with an equally refined and educated woman, paid his first and only visit to a house of prostitution. He was unfortunate and contracted syphilis, which broke out about the time of the expected ceremony.

The man was informed of the nature of the disease and the probable results should he marry; he placed himself under my care, with the admonition that if I should reveal his trouble he would shoot me. He was treated energetically until the time set for the postponed wedding. When informed that he must again postpone the marriage, he was desperate, stating that his reputation was at stake, the marriage must take place, etc. I was again cautioned, but he was told with positive assurance that if he did not inform the young lady I would. My advice was finally followed. They were married the year following, and lived without marital relation for two years. Three years after their marriage a healthy child was born.

A man informed me that he had lost his daughter, who was about to be married; that since her death he had learned that her intended husband was diseased and he thanked God that she had been spared the disgrace and probable suffering, had she lived and married.

Such experiences are of every-day occurrence, but when diseases so frightful in their results are permitted to continue without concerted action on the part of the medical profession, it seems that we are derelict in our duties toward the innocent victims.

There is decided opposition throughout the United States, especially by the ministers and teachers of sociology, to the examination of the prostitutes or to their recognition in any other way than to point them out to the young as examples of what will befall them should they err. An eminent authority on sociology states: "It seems to me that for the authorities to clear away as much as possible the dangers that surround sexual vice, is to put a premium on irregular sexual connections, as against the normal state of marriage. If the risks of vice are minimized by such a policy, the chief fulcrum is taken away from those who are bringing to bear on the young, deterrent pressure."

A reform mayor of the city of Virginia had his method; he closed all the houses, drove all the women out of town. The mayor was asked if he did not know that many of the women were yet in town. He stated that he had found a few but had his police drive them from the rooms. The facts are, the women who desired to remain, did so, and were protected if they had sufficient money to pay or to buy off the police. The remainder moved to the next town.

The attempted reform was not accomplished without trouble; the mayor received threatening letters which were soon followed by execution of the threats. His residence was partly demolished by dynamite; his barn and valuable horses destroyed by fire; blood was poured on his doorsteps. These atrocities, with the anticipation of future ones more terrible, kept his invalid wife and daughter in a state of fear, better imagined than described.

### SUMMARY.

It is stated that venereal statistics are valueless when used to demonstrate the lessening of venereal diseases, and it is contended that they have but a local value. The deductions from my observation, show that though inspection did not prevent new cases from appearing, either in the male or female, it did decrease the ratio in direct proportion to the number of cases detected and treated.

As an example, in a house in the vicinity of the mines, seven out of eight inmates had syphilis. They were all using mercurial inunctions, though no attempt at restriction had been made prior to their inspection. In the present instance the practical success of the measures adopted was evidenced by the accomplishment of the original project for which they were adopted, as the endemic was controlled, with the result that at the present time the disability "on account of some woman's disease" is insignificant.

The results of practical methods carried out during the last six years in unlicensed houses would indicate that it is possible to lessen venereal diseases.

1. By thorough, frequent inspection by competent men of all houses of prostitution.

2. By placing acutely diseased women in a hospital and giving them the treatment their diseases demand, which would also facilitate the closer study of venereal diseases.

3. By the exclusion from the houses of diseased men.

4. By the registration of diseased women with the keepers of the houses.

5. By co-operating with the keepers until the present periodical extortion system is a thing of the past.

Relative to hospital expenses, it was suggested to the keepers that they collect a fixed sum each month from each woman, giving her a ticket of admission to one or more hospitals in the state, with which the necessary arrangements could be made.

Another phase of the subject, which makes restriction a difficult matter to accomplish, is the abhorrence which many medical men of esthetic tastes feel toward dealing intimately with prostitutes and their diseases.

This view point is responsible in a large measure for the relegation of the restriction of venereal diseases to men who are employed to do the inspecting simply for the pecuniary returns, and by whom moral or any other considerations are left entirely out of the reckoning.

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**The Designation of One's Associate in Medicine.**—The term "assistant" is distasteful to many medical men who probably feel that one man is as good as another and would be a great deal better but for the lack of opportunity. The benevolent and diplomatic principal would speak of his "colleague." Some have even filched from the clerical profession the title "coadjutor." A well-intentioned old lady, on being asked whether she had seen her doctor, replied: "No, but he has promised to send his accomplice." How will "associate" do?—*Medical Times.*

# RETROPERITONEAL CYSTS

## DEVELOPING FROM THE WOLFFIAN BODY—PARAPANCREATIC CYSTS.*

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The results of frequent surgical intervention in the upper abdomen has gradually changed our ideas regarding tumors and their development in this region. This change in our ideas is analogous to that which followed frequent operations on appendiceal and pelvic conditions.

In spite of frequent operations, cystic tumors developing in the region of the pancreas and having relationship with, rather than belonging to, that organ are still denominated pancreatic cysts.

That fetal remains may be found retroperitoneally is a well-known and accepted fact. That tumors develop from the middle and lower portion of the Wolffian body and tubules, as well as from the ducts of Müller, is also well known. In view of this knowledge, it seems strange that for such a long time retroperitoneal cysts, other than dermoid, have usually been designated by the name of the glandular structure with which they were most intimately in connection. The uncertainty that exists in the identification of embryologic remains, especially in cysts in which the lining cells may have undergone marked change from atrophy and fluid pressure, makes it necessary to depend for diagnosis on the anatomic position of a cyst rather than on mere microscopic examination of the wall. Another important diagnostic point is their resemblance to other growths.

To trace briefly the development of the Wolffian body will enable us better to understand the growth of tumors derived from its remains.

First, in the embryology of vertebrates, we have, as the primitive constituents of the urogenital system on each side, four parts: 1, the genital ridge; 2, the Wolffian ridge; 3, the Wolffian duct; 4, the Müllerian duct. Out of the Wolffian ridge there arise three primary organs: (a) The pronephros (head kidney), with its excretory duct, the Wolffian duct; (b) its place is taken by the mesonephros (Wolffian body), an amniote or primitive kidney; (c) both are replaced by the true kidney.

The Wolffian body develops on the side of the vertebræ and retroperitoneally.[1] Medially, it borders on the aorta and posteriorly on the posterior body wall. The Wolffian body extends down into the pelvis, its upper end extends up to the region of the liver and is united, together with the Wolffian duct, to the diaphragm. On the development of the kidney the Wolffian body retrogrades and the kidney finally develops in the position which it previously occupied.

The upper or sexual part (epoöphoron) is usually retained, and in the late fetal period suffers little change of location. The middle or sexual series of the Wolffian tubules, with the adjacent part of the Wolffian duct, becomes, in the female, an atrophic structure, known as the epoöphoron or parovarium, or organ of Rosenmüller.

The Wolffian tubules and the Wolffian body become, in the male, the system of excretory ducts of the testicle.[2]

The Wolffian body being situated in the tissue which furnishes the mesodermal elements of the mesentery, omentum and other abdominal organs, these structures are able to carry with them in their changes of location ectodermal cells, from which normally develop ovary, epidermis, hair, nails, entire nervous system, spinal ganglia; and mesodermal cells, from which normally develop peritoneum, smooth muscle fibers, fibrous connective tissue, cartilage, bone, blood, blood vessels, etc. Later these may produce structures resembling those which they were destined to form had they remained in their normal situation.

Inasmuch as the first surgical interference was devoted to the lower abdomen, every movable cyst of the abdominal cavity was diagnosticated and operated on as ovarian for many years, practically up to 1898. Later in the cycle of abdominal surgery, laterally placed cysts were considered nephritic, adrenal or splenic, and finally all the cysts of the upper abdomen were considered pancreatic, although the evidence of such origin has been, in most cases, of the very slightest.

In reporting a case which he called "multilocular cystoma of the pancreas, although no definite pancreatic tissue could be made out," Fitz[3] quotes as "cysts of the pancreas" several cases in which the evidence making a diagnosis of pancreatic cyst would be possible is conspicuous by its absence. They are as follows:

CHERT'S[4] CASE.—This was a case of cystic tumor in the upper abdomen removed by Poncet from a woman, aged 26. The growth was first noticed six years before operation, and it increased slowly for four years. Just before operation, it was apparently the size of the head of an adult. The cyst, when removed, was found to have a wall in which smaller cysts, no larger than hazel nuts, were found. They were lined with cylindrical epithelium and the wall of the main cyst was traversed by ridges enclosing communicating space.

BOZEMAN'S[5] CASE.—This case showed a principal cyst holding two and one-half gallons of brown fluid, the wall was trabeculated and bore several secondary cysts, the size of hen's eggs. The walls were lined with cylindrical or polygonal epithelium and hardened section showed that the formation of the secondary cysts took place as in an ovarian cyst.

RIEDEL'S[6] CASE.—This case occurred in a woman who died in four days after the puncture of the cyst. The cyst had an adenoid projection from wall. Several globular spaces were found communicating directly with the interior, the space being lined with cylindrical epithelium, and others had papillary elevations as in ovarian cystoma.

MARTIN'S[7] CASE.—A woman, aged 50, had a cyst removed from the region of the pancreas. It was so large it filled the entire abdomen. Sixteen years before she expected labor. The cyst was found behind the transverse colon. The cyst was isolated, except at one end, and cut away. A portion of the wall contained a large number of cysts, varying in size from that of a hazel nut to a goose egg. All were lined with cylindrical epithelium, and no pancreatic tissue was found.

RANSOHOFF'S[8] CASES.—Ransohoff reports 159 cases of pancreatic cyst subjected to operation. Seventeen were of the type of cyst adenoma. Of the 159, all but thirty-four were sewed to the abdominal wall and drained, with but five deaths. In twelve, operation could not be completed; four of these patients died; in twenty-three there was total enucleation, with two deaths. There have been about thirty similar cases reported since.

The report of his second case follows the conventional diagnostic line. It was an epigastric tumor with resonance encircling it above and below. At the operation, the cyst was enucleated from its location and was found in such close relation to the pancreas that an examination of specimen showed a small piece of pancreas intimately incorporated with the external surface of the tumor. The tumor was withdrawn between stomach and colon and the gastrocolic omentum divided.

* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Fifty-seventh Annual Session, June, 1906.

1. Abel-Bandler: Gyn. Path., N. Y., 1901.
2. Heiser: Text-Book, "Embryology."
3. Fitz: Am. Jour. Med. Sci., 1900.
4. Chert: Gaz. des Höp., 1898.
5. Bozeman: N. Y. Med. Rec., 1882.
6. Riedel: Arch. f. klin. Chir., 1885.
7. Martin: Virch. Arch., 1890.
8. Ransohoff: Am. Medicine, July, 1901.

There was a thin, tough sac. Nowhere did there appear any infiltration of connective tissue with the epithelium. Completely healed in three weeks.

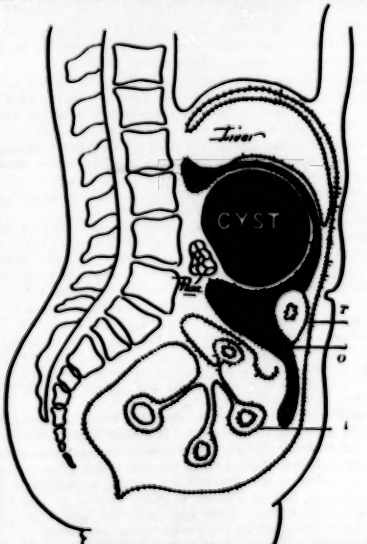
The following cases have apparently been diagnosticated pancreatic from their relation rather than from the presence of pancreatic tissue. They answer to all the characteristics of Wolffian body cysts:

Lohlein's[9] Case.—The cyst extended back to the spine and down into the pelvis, compressing the ascending and transverse colon, and had a fibrous wall. The contents consisted of a thin, yellow, mucus-like fluid.

Obalinski's[10] Case.—Obalinski described a retroperitoneal cyst with a wall composed of firm connective tissue and elastic tissue. There were liters of clear, watery fluid. He refers to an article by Petryowski, in which similar cases are reported, and the origin from the Wolffian body or Müllerian duct suggested.

Carter's[11] Case.—Carter cites a case of a thin-walled cyst attached to spine in left lumbar region.

Morris's[12] Case.—This was a case of a woman who was delivered of a malformed fetus. She had at the time a tumor, independent of the uterus, which was subsequently diagnosticated as a cyst of the pancreas. The cyst ruptured spontaneously into the intestine, effecting a cure of all symptoms.




T. Transverse colon. O. Omental bursa. I. Intestine. The dashed line indicates the peritoneum.

Pean's[13] Cases.—This author made personal observation of three cystic tumors and found them all attached to the posterior wall of the abdomen. They appeared to have got between the layers of the omentum secondarily in the process of growth.

Pitchford's[14] Case.—"Alice P., aged 29, single, had noticed a tumor gradually increasing in size for past two years. There was little inconvenience from its size until about five weeks before operation. Her only complaint was of some increase in dyspepsia and pains in the abdomen and back.

"*Examination.*—Examination showed tumor mesially placed and lying, for the most part, in the hypogastric region, about one-third only being in the epigastric region. The general contour was ovoid, the narrow end being upward; its size was about that of a cocoanut. It was freely movable upward and to the right, but less so to the left and downward. The tumor was dull on percussion all over; it was surrounded on all sides by a band of resonance. The urine was normal.

"*Operation.*—Operation showed uterus and appendages normal. The great omentum was found to be stretched out over the tumor. The transverse colon was found to be displaced downward by the tumor. The growth projected through that part of the great omentum which lies between the stomach and the transverse colon. It was also behind the parietal peritoneum of the lesser sac. The tumor was shelled out of its bed with comparative ease. The sides were found to be bound to the posterior abdominal wall by connective tissue. Incision closed without drainage and patient left hospital in sixteen days. The growth was of the nature of a multilocular cyst and had a common wall of tough connective tissue, the thickness varying from 2 mm. to 6 mm.

"*Microscopic Examination.*—This showed the main tissue of the cyst walls to consist of bundles of fibrous tissue packed in varying degrees of closeness. In the fibrous tissue were foci of more actively growing connective tissue. In some places these young connective tissue cells appear grouped in heaps below the lining epithelium; in this way are formed low eminences, projecting into the cavity of the cyst. In two of the sections typical gland tissue was encountered.

"*Remarks.*—This multilocular cyst tumor developed behind the peritoneal covering of the posterior wall of the lesser peritoneal cavity. There can, I think, be little doubt that it was derived from the pancreas, being developed, probably, very early in life in some outlying fragment or accessory portion of the gland.

"If this theory is correct, it is interesting to note that pancreatic properties were entirely absent from the cyst contents. The simplicity of construction and the absence from the tumor of cartilage, bone, striped muscle or skin organs preclude, I think, the suggestion of teratoma. More suggestive of a pancreatic origin than mere anatomic position are, however, the characters of the traces of glandular tissue found in the specimen."

Chantle's[15] Case.—"A woman, aged 45, had a fixed cystic swelling, occupying the hypogastric and left iliac regions, but not involving the pelvis. There was resonance in front. Three years' history of growth. The cyst contained a fluid of brown color and tufts of papillomatous tissue could be seen microscopically. The wall of the cyst was covered by epithelium, arranged in a slightly papillomatous manner. The cyst was behind the sigmoid and between the layers of its mesocolon."

McMurtry's[16] Case.—This case shows "a cyst, having its origin in the colonic mesentery on the left side, and when it had extended to the right it had grown at the expense of the wall of the tumor. It occupied the entire upper left quadrant of abdomen. It was a serosanguineous cyst of the mesentery, arising in the colonic mesentery near the left kidney. The sac, which was very thin, was enucleated."

Cartledge's[17] Case.—A woman, aged 45, had a large, freely movable cyst in left side of abdomen, immediately under the rib. It could be pushed downward and simulated the location and feel of a cyst of the left uterine appendage. It had a thick wall and was enucleated. It weighed six pounds; the contents were like rich chocolate.

Cysts of the omentum and mesentery are more apt to be confounded with ovarian tumors than retroperitoneal cysts. These have been fully considered by Dowd,[18] Ayer[19] and Porter.[20] There is unanimity of belief that in this class of cases cysts develop from embryologic remains.

9. Lohlein: Berl. klin. Wochft., 1889.
10. Obalinski: Wien. klin. Wochft., 1891.
11. Carter: Brit. Med. Jour., January, 1883.
12. Morris: Lyon Médical, September, 1901.
13. Pean: Bull. de la Soc. d'Anat., 1848.
14. Pitchford: Trans. Path. Soc., London, 1903.
15. Chartle: Med. Press., March 1, 1905.
16. McMurtry: Louisville Mon. Jour., 1904-05.
17. Cartledge: Trans. South. Surg. and Gyn. Soc., 1902.
18. Dowd: Annals of Surg., 1900.
19. Ayer: Amer. Jour. Med. Sci., January, 1906.
20. Porter: Annals of Surg., March, 1906.

The following cases reported as retroperitoneal cysts simulating cyst-adenoma of kidney or floating kidney also evidently developed from Wolffian body remains:

KRUSEN'S[21] CASE.—This is a case of cyst of the kidney simulating ovarian cyst.

A woman, aged 34, had a mass which had been growing for three years and was very movable. She had dragging pain, relieved by lying down. Urine was negative. Cyst was the size of an ordinary football, occupying the right side of the abdomen and having no connection with the uterine appendages. It was retroperitoneal and the walls were thin and tense. The fluid was clear and colorless.

"On examination it was found to be connected with the right kidney, which was considerably atrophied. It resembled a cyst of the right ovary with a long pedicle."

ELDER'S[22] CASE.—A case of paranephritic cyst simulating a floating kidney.

A single woman, aged 30, had a tumor which had developed some time in the past six years. During this time she had various attacks of pain in the right side of the abdomen, accompanied by nausea and vomiting. Examination showed a tumor the size and shape of a kidney, moving freely with respiration, and movable into the different quadrants of the abdomen. Urine was normal. Operation revealed a retroperitoneal cyst, independent of the kidney. The cyst was found to be divided into three loculi, which communicated with each other. The wall was composed of fine, fibrous connective tissue and enclosed a straw-colored fluid.

PAWLIK'S[23] CASE.—A woman, aged 43, was supposed by Pawlik to be suffering from hydronephrosis, although urine was normal in quantity and quality. The operation showed pararenal cyst, unconnected with kidney.

The grouping by Dowd[12] of hydatid, chylous dermoid and other cysts of a similar nature under the head of embryologic tends to simplify our understanding of these tumors. As cystic tumors have been identified as originating in all parts of the Wolffian body tract, except the upper, a logical step would be to group under the head of retroperitoneal Wolffian body cysts all cysts of the upper abdomen in which development from glandular organs can not be conclusively demonstrated.

LOCKWOOD'S[24] CASE.—Lockwood was the first clinician to suggest the real cause of the development of these cysts. He reports a case, with remarks.

The patient was a woman, aged 20, in whom an operation disclosed a cyst as large as an ostrich's egg, behind the descending mesocolon. Urine was normal. The colon lay to its outer side, but had no connection with it. After the removal of the cyst, the ureter, which lay behind it, came into view. The cyst itself lay among loose connective tissue, back of the peritoneum. It was unilocular, and filled with a chocolate-colored, semi-fluid mass, consisting of fibrin, blood pigment, and cholesterin. Microscopic examination showed contents to be simply altered blood clots. No glandular structure was found.

In attempting to account for cysts, he says: "The suprarenal body may be developed from the Wolffian body, but, at all events, it is continuous with it until a late period of intrauterine life. At this period the lower end of the Wolffian body is already becoming converted into the epididymis and other structures about the testis; in the female it is becoming epiovarian or parovarian. Thus it is evident that between the suprarenal body and the ovary or testis, there is, along the course of the ureter, a part of the Wolffian body which has hitherto been unaccounted for. How long this persists or what may be its ultimate fate is unknown.

"Now it is so notorious that the part of the Wolffian body which is in relation to the ovary and testis is prone to give rise to various kinds of cysts, that it does not seem unreasonable to assume that the remaining part, viz., along the ureter, may do so likewise, and I venture to suggest this is the origin of the cyst which I have just described."

DUNNING'S[25] CASE.—A married woman, aged 25, had a lump in the left side, under short ribs and complained of occasional attacks of pain. The diagnosis was hydronephrosis. When at rest, the tumor occupied a position just below the stomach.

*Operation.*—Operation revealed a large tumor, with dense, fibrous capsule. From main cyst, forty or fifty smaller cysts projected into and filled the main cavities. They were filled with slightly turbid, tenacious, mucoid material. "It is called a pancreatic cyst because it occupies the position usually occupied by such a cyst, and is attached to the pancreas."

*Pathologic Report.*—"While this adenomatous tissue is not typical of pancreatic tissue, it might pass for such. We have failed to demonstrate the presence of the two most positive signs of the pancreatic origin. It has, however, been the custom to classify cysts occupying a similar position and attached to the pancreas as pancreatic cysts."

In their work, page 202, Robson and Moynihan[26] state: "Unless a careful postmortem examination is made, the origin of the tumor of the pancreas can not be proved, for if the growth begins in the suprarenal capsule in adhesion to the pancreas, it is probably found very early on the left side, and at the operation a portion of the pancreas may have to be removed."

Dunning says: "In my case, I think the suprarenal capsule origin may be excluded, because when at rest, it was two or three inches removed from the site of the suprarenal gland and kidney. Neither could the case be described as a cyst of the omentum as it lay entirely behind the omentum."

Lloyd[27] says: "Because the examining finger enters a cavity containing fluid behind stomach, at the bottom of which the pancreas is felt, there is no reason to call it cyst of the pancreas," and he suggests the term pancreatic pseudo-cysts for bursitis of the lesser peritoneal cavity with tumor formation. The method of formation of pseudo-cysts and the fact that they have no definite cellular wall structure suggests, as several writers have pointed out, that when the pancreas is injured there is an effusion of blood and pancreatic secretion in the lesser cavity of the peritoneum (or from gallstone disease some obstruction to foramen of Winslow may arise, especially if there is severe cholecystitis and gangrene) which seals (closes) the foramen of Winslow. The fluid continues to irritate, so that very soon the cavity is fully distended. This causes at first a rapid tumor formation, which afterward enlarges very slowly. This occurs below and behind stomach and large intestine.

As the fluid pours out into pre-existing space, the tumor takes the shape of lesser peritoneal cavity, being deepest above and toward the left in the direction of the spleen. The treatment really consists in incising through the thin peritoneal covering and stitching the walls of the cavity to the abdominal wall. "In these cases, the anterior wall which is incised is scarcely thicker than the normal gastrocolic omentum.[28] The transverse mesocolon may be so thin as to allow leaking of fluid which causes general peritoneal symptoms.

COOMBES AND NASH'S[29] REPORT.—In connection with a report of a case of their own Coombes and Nash also report twenty-five cases which they call traumatic pancreatic cysts, in which there is effusion into the lesser peritoneal cavity. In this table, twenty-three occurred in males and two in females. Youngest male, two; oldest male, fifty-eight. One woman, aged 23, had suffered three years. The cause of the trouble was a fall from a great height.[30] The other woman, aged 20, had suffered one year. Cause of trouble was a blow on the chest by a swinging door.[31]

21. Krusen: Am. Medicine, January, 1906.
22. Elder: Montreal Med. Jour., 1905.
23. Pawlik: Arch. f. klin. Chir., vol. liii, p. 571.
24. Lockwood: Trans. Path. Soc., London, 1898.
25. Dunning: Am. Jour. Obst., 1906.
26. Robson and Moynihan: "Diseases of the Pancreas."
27. Lloyd: Brit. Med. Jour., 1892.
28. Blayney: Trans. Royal Acad. Med., Ireland, 1904.
29. Coombes and Nash: Lancet, 1901.
30. Reigner: Berl. klin. Wochft., 1900.
31. Boyd: Clin. Jour., February, 1900.

Twenty-nine cases, including eleven males and eighteen females, with an average of 36, were non-traumatic. The seven cases in which they found that excision was attempted or performed, suggesting a definite wall, were all in females.

ROLLESTON'S[32] CASE.—This was a case of acute pancreatitis, which gave rise to a localized peritonitis, with effusion, occupying the lesser sac of the peritoneum. He remarks that, "It is noteworthy that this peripancreatic cyst resembled closely a true pancreatic cyst, both in its position and relations and in the chemical and digestive properties of its containing fluid. It is impossible to be certain whether a cyst in this situation is pancreatic or peripancreatic, merely from clinical examination, and difficult, even if the case is operated on, unless a piece of the wall is removed and examined microscopically for the presence or absence of pancreatic tissue. A point which might be useful is the presence or absence of fat necrosis. Its presence would be strongly in favor of a peripancreatic cyst secondary to pancreatitis, since it does not seem to occur in true pancreatic cysts. What the relative frequency of peripancreatic effusions secondary to pancreatitis and of the pancreatic cysts really is, it is difficult to determine. Clinically, the term pancreatic cysts is used to cover both."

If it is reasonable to believe the theories advanced as to the formation of pseudo-cysts, it is also reasonable to believe that pressure from a tumor developing under the postparietal peritoneum may lead gradually to the changes in the pancreas which it is claimed are set up by direct and sudden violence.

### AUTHOR'S CASES.

The conclusions arrived at in this paper are based on a consideration of reported cases and on three cases of cystic tumor developing in the epigastrium which have been under my charge. Two of these cases I saw while acting as an assistant to Dr. S. J. Mixter. Both of these cysts had a definite wall and appeared between stomach and transverse colon and were treated by enucleation. The third case, which I report in full, was under my charge last year.

*Patient.*—Mrs. S., married, aged 45, was born in Massachusetts and had had no previous illness, except measles when a child.

*History.*—Her father was alive, aged 88. Mother died of pneumonia at 54. Two sisters died during infancy. One brother died at 49 of Bright's disease. Three brothers and one sister are alive. She was married at 19, and has two daughters, ages 25 and 27. She has had no trouble during pregnancy or during delivery and no miscarriages.

Catamenia was always regular and painless up to May, 1904, when she was unwell six weeks in succession. She has been unwell only once since. Ten years ago, while taking some wood from one house to another, she slipped on the stairs, and thought at the time she had a strain, but this apparently got well, as she made no further complaint. During the latter part of the summer of 1904, she had "stomach trouble." She had nausea and distress after eating.

She was examined carefully by a physician, who found nothing to suggest anything other than indigestion. Stomach trouble continued, with gradual loss of flesh, amounting in all to about thirty pounds. On getting up in the morning she always felt fine, but as the day went on nausea increased. She was troubled with nausea in the morning after breakfast and vomiting after dinner and supper.

In September, 1904, she noticed a bunch in the abdomen for the first time. It was movable from the right side to the median line, along the lower costal border.

Some time after this she tripped and fell, and following this, there was a constant increase in the size of the swelling. At Christmas she was confined to her bed for two or three days on account of severe indigestion. She was also slightly jaundiced at this time. Her bowels were constipated and she found that the less she ate the better she felt. Her complexion became sallow and yellowness of eyes persisted for some time. The urine was normal in quantity and constituents. The constant growth of the tumor caused her to call Dr. J. A. Magee, of Lawrence, in February, 1905, and a few days after his first visit, I saw her in consultation on February 8.

*Examination.*—The story of the case was related as above, and examination showed a pale, poorly-nourished woman, who showed the effects of a marked loss in flesh. Examination of heart, lungs and pelvic organs was negative. There was no edema of extremities. Abdominal walls were very lax. In the upper left abdomen, in the region of the gall bladder, was a tense, fluctuating tumor. It was as large as a man's head, and moved with respiration. It was movable in all directions, but most so toward and beyond the median line to the left. There was dulness above and to the outer side, with resonance below and to the left. As the woman changed her position in the bed, the tumor changed its position. But, as she lay on her left side, the zone of movement seemed toward the left and up toward the ensiform cartilage.

*Diagnosis.*—The diagnosis rested between a cyst of the gall bladder, pancreas, mesentery, or a hydronephrosis.

*Operation.*—Operation was advised, and was performed on Feb. 14, 1905, at the Elliot Hospital. In the operation I was assisted by Dr. Magee and Dr. Emil Ruppel, of Lynn.

Incision extending from opposite the end of the ninth rib to a point just below the umbilicus, was made through the right rectus muscle. When the peritoneum was incised, a large, glistening cyst of the same apparent nature and appearance as a parovarian, was seen. The liver was pulled down in a thin, broad band over the upper portion of the tumor. The gall bladder was to its outer side and behind. There was no area or evidence of fat necrosis. The stomach was just visible at left end. An incision was made through the peritoneal attachment to the liver and the cyst was shelled out in a similar manner to the enucleation of a gall bladder in cholecystectomy.

The cyst was found covered by two layers of peritoneum and on turning cyst up and going through the gastrohepatic omentum, the cyst which had a fairly firm fibrous wall was enucleated back to the top of the pancreas, which could be felt. One or two large blood vessels, which made something of a pedicle, were ligated and the cyst removed entire.

During the operation an occasional large blood vessel was tied.

After the enucleation, the cavity from which the cyst came was practically devoid of fluid or bleeding. The abdomen was closed without drainage, and the patient made an uneventful recovery, going home on the sixteenth day. The stomach symptoms disappeared after the third day and have not returned.

*Postoperative History.*—In the year following the operation, her complexion cleared up and she has regained her original weight. I saw her the first of May of this year and she is entirely well. She has not had an unfavorable symptom since leaving the hospital.

*Microscopic Examination.*—Dr. W. F. Whitney of the Harvard Medical School reports the specimen to be "similar to the ones removed by Dr. Mixter, being a thin-walled cyst, presumably from remains of the Wolffian body and resembling a parovarian cyst."

Dr. W. P. Graves, of the Free Hospital for Women, made a further examination and reports as follows:

"Wall is made up of pure fibrous tissue which contains areas of round-cell infiltration. There are also areas of large palely-staining cells which are apparently collections of endothelial cells. Scattered through the fibrous tissue are smooth muscle fibers. The wall is vascular and contains numerous capillary blood vessels which have a thick, prominent, endothelial lining. The interior surface of the cyst is lined by epithelium. In places this epithelium consists only of a single cuboidal layer. In other places the epithelium is heaped up in cuboidal or polygonal forms. In still other places the epithelium at the surface has a distinct tubular formation. Beneath the epithelial lining is a well-marked zone of cytogenous tissue and this structure together with the occasional appearance of tubular epithelium gives a suggestive glandular appearance. In

32. Rolleston: Trans. Path. Soc., London, 1898.

no instances could the epithelium be found to be ciliated. Diagnosis: Retroperitoneal cyst."

### SUMMARY OF DIAGNOSTIC POINTS.

To summarize some of the diagnostic points:

A cyst developing from Wolffian body remains develops back of the retroperitoneum and may push the stomach in any direction or may develop behind and push forward the aorta and vena cava.

True cysts of the pancreas would not be likely to do this on account of its relations.

The greater the amount of substance secreted and the greater the amount and the number of products from the displaced ectodermal or mesodermal cells the larger the cyst.

Lateral mobility has been considered diagnostic of mesenteric cysts, but mobility is also characteristic of most tumors of the upper abdomen, which do not develop directly from a glandular organ.

"A ferment which converted starch into sugar has been found absent from undoubted pancreatic cysts,"[32] "and has been found in abdominal cysts not connected with the pancreas."[33]

Slowly developing obstruction to the pancreatic duct or from interstitial changes may cause cystic degeneration of that organ.

Pancreatic cysts are finely fixed and do not attain large size.[34]

It may be considered that there have been, under the head of pancreatic cysts, three forms described: 1. The small, true, firmly fixed cyst of the pancreas, which is accompanied by glandular destruction, and rarely presents as a tumor in the living. 2. The thin-walled, friable pseudo-cysts which are full of pigmented material. Efforts to remove these have been generally unsuccessful, so they have been treated by drainage. They present below stomach, with areas of tympany above and below. 3. A thin, fibrous-walled cyst of large size, containing, as a rule, cholesterin fluid; freely movable, and can be enucleated; resembles closely a parovarian cyst and develops in close relationship to the pancreas. The first are true pancreatic cysts; the second, pseudo-cysts or omental bursitis; the third are Wolffian body cysts, and stand in the same relation to the pancreas as do parovarian cysts to the ovary; or if another descriptive name is needed, these might be called parapancreatic cysts.

Aspiration should never be performed on account of danger of infection, either from puncture of some hollow viscus, or from disseminating cyst contents.

### CONCLUSIONS.

The clinical picture of a cyst developing behind the peritoneum, from embryologic remains, depends on the relations it finally assumes.

Cysts from the Wolffian body are not uncommon in women.

Movable cysts presenting in the epigastrium have usually been called pancreatic, although true cysts of the pancreas are rare (especially in women) and are rarely movable.

Developing in the region of the kidney, they may be mistaken for hydronephrosis or may extend so low as to be considered ovarian.

Retroperitoneal cysts are usually benign, unaccompanied by symptoms other than those of a mechanical nature.

409 Marlborough Street.

33. Morten: Brit. Med. Jour., 1903.
34. Douglass: Trans. South. Surg. and Gyn. Soc., 1902.

# TETANUS NEONATORUM.

## A SECOND REPORT OF A STATISTICAL STUDY.†

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A second paper on the study of the incidence of tetanus in the United States is herewith presented. Special attention has been given to the subject of tetanus neonatorum, and the literature from 1850 to 1906 (covering reports of cases found in the "Index-Catalogue of the Library of the Surgeon-General" in Washington from 1850 to 1892, and in the *Index Medicus* from 1892 to 1906 inclusive), has furnished 1,276 cases, with a report of 31 original ones, collected by us from direct correspondence with hundreds of observers all over the

TABLE 1.—MORTALITY OF TETANUS IN CENSUS YEARS AS SHOWN BY U. S. VITAL STATISTICS.

| | 1870. | | 1880. | | 1890. | | 1900. | |
|---|---|---|---|---|---|---|---|---|
| | Tetanus Neonatorum. | Total Cases. | Tetanus Neonatorum. | Total Cases. | Tetanus Neonatorum. | Total Cases. | Tetanus Neonatorum. | Total Cases. |
| Alabama | 28 | 52 | 86 | 108 | 79 | 96 | 29 | 54 |
| Arizona | ... | ... | ... | ... | ... | ... | ... | 3 |
| Arkansas | 4 | 8 | 16 | 25 | 7 | 15 | 1 | 11 |
| California | 7 | 19 | ... | 11 | 9 | 29 | 7 | 55 |
| Colorado | 1 | 1 | 1 | 2 | 2 | 6 | ... | 5 |
| Connecticut | 1 | 9 | 3 | 20 | 13 | 18 | 9 | 35 |
| Dakota | ... | ... | 1 | 1 | ... | ... | ... | ... |
| Delaware | ... | 3 | ... | 3 | 1 | 7 | ... | 3 |
| District of Columbia | 2 | 6 | 9 | 10 | 52 | 58 | 9 | 12 |
| Florida | 4 | 11 | 26 | 35 | 27 | 33 | 26 | 100 |
| Georgia | 16 | 27 | 38 | 60 | 42 | 62 | 19 | 69 |
| Idaho | ... | 1 | ... | ... | ... | ... | ... | ... |
| Illinois | 5 | 26 | 24 | 63 | 63 | 100 | 36 | 139 |
| Indiana | 4 | 13 | 17 | 40 | 10 | 34 | 11 | 67 |
| *Iowa | 3 | 8 | 3 | 13 | 10 | 15 | ... | 18 |
| Kansas | 2 | 2 | 3 | 9 | 4 | 9 | 3 | 20 |
| Kentucky | 14 | 36 | 21 | 51 | 49 | 64 | 11 | 44 |
| Louisiana | 374 | 507 | 149 | 178 | 268 | 299 | 106 | 291 |
| Maine | ... | 2 | ... | 2 | ... | 6 | ... | 6 |
| Maryland | 14 | 31 | 15 | 24 | 36 | 46 | 16 | 64 |
| Massachusetts | 2 | 18 | 7 | 17 | 6 | 9 | 3 | 31 |
| Michigan | 1 | 6 | 3 | 8 | 13 | 31 | 7 | 33 |
| Minnesota | 1 | 3 | 8 | 12 | 7 | 13 | 2 | 18 |
| Mississippi | 34 | 48 | 47 | 61 | 19 | 29 | 2 | 12 |
| Montana | 1 | ... | ... | ... | ... | ... | ... | ... |
| *Indian Territory | ... | ... | ... | ... | ... | ... | ... | 2 |
| Missouri | 88 | 166 | 33 | 59 | 180 | 200 | 57 | 100 |
| Nebraska | 1 | 1 | ... | 4 | ... | 6 | 3 | 16 |
| Nevada | ... | ... | ... | 2 | ... | ... | ... | ... |
| New Hampshire | ... | 1 | ... | ... | ... | 1 | ... | 3 |
| New Jersey | 6 | 19 | 16 | 35 | 68 | 80 | 38 | 84 |
| New Mexico | ... | 1 | ... | 3 | ... | 2 | ... | ... |
| New York | 58 | 112 | 14 | 50 | 90 | 146 | 57 | 204 |
| North Carolina | 7 | 13 | 39 | 54 | 12 | 18 | 8 | 46 |
| North Dakota | ... | ... | ... | ... | 2 | 2 | 1 | 2 |
| Ohio | 7 | 40 | 10 | 43 | 45 | 77 | 10 | 88 |
| Oklahoma | ... | ... | ... | ... | ... | ... | ... | ... |
| Oregon | ... | ... | ... | 2 | ... | 1 | ... | ... |
| Pennsylvania | 9 | 60 | 21 | 70 | 35 | 74 | 21 | 162 |
| Rhode Island | ... | 3 | 3 | 6 | 2 | 5 | 2 | 9 |
| South Carolina | 29 | 42 | 26 | 31 | 106 | 114 | 67 | 89 |
| South Dakota | ... | ... | ... | ... | 3 | 3 | ... | 3 |
| Tennessee | 25 | 46 | 52 | 84 | 35 | 58 | 6 | 47 |
| Texas | 183 | 212 | 212 | 256 | 126 | 157 | 111 | 195 |
| Utah | ... | ... | ... | ... | 1 | 1 | 1 | 4 |
| Vermont | 1 | 3 | 1 | 3 | ... | ... | ... | 3 |
| Virginia | 43 | 65 | 43 | 61 | 47 | 65 | 15 | 66 |
| Washington | ... | ... | ... | 1 | ... | ... | ... | ... |
| West Virginia | ... | 1 | 2 | 7 | 4 | 9 | ... | 1 |
| Wisconsin | 1 | 5 | 6 | 10 | 12 | 21 | 7 | 22 |
| Wyoming | ... | ... | ... | ... | ... | ... | ... | ... |
| 50 Largest Cities | ... | ... | 762 | 905 | ... | ... | ... | ... |
| Total | 975 | 1627 | 1716 | 2537 | 1491 | 2019 | 595 | 2260 |

† Read in the Section on Diseases of Children of the American Medical Association at the Fifty-seventh Annual Session, June, 1906.

* The figures for 1900 are furnished by the Bureau of the Census, Division of Vital Statistics, Washington, and are incomplete for the non-registration states, which are Alabama, Arizona, Arkansas, California, Colorado, Delaware, Florida, Georgia, Idaho, Illinois, Indian Territory, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maryland, Minnesota, Mississippi, Missouri, Montana, Nebraska, Nevada, New Mexico, North Carolina, North Dakota, Ohio, Oklahoma, Oregon, Pennsylvania, South Carolina, South Dakota, Tennessee, Texas, Utah, Virginia, Washington, West Virginia, Wisconsin and Wyoming.

country, giving a total number of 1,307 cases, which form the basis of our studies and deductions.

In our first paper[1] we note the following:

A perusal of Table 3 cannot help but impress every reader with the appalling mortality of tetanus neonatorum, and herein, indeed, lies a great work in a concentrated endeavor to lessen the fearful ravages of the condition in the newborn.

The subject is discussed under various names, trismus nascentium, tetanus infantum, nine days fits, and others, but we have chosen to limit this paper to the study of tetanus neonatorum, occurring in the newborn, from infection through the umbilicus.

Table 1, which also appeared in our previous article, gives the mortality from tetanus neonatorum for the census years from 1870 to 1900, inclusive, or a total of 4,778.

The frightful mortality of this disease, resulting from carelessness and ignorance in the vast majority of cases, demands the earnest attention of the medical profession, sociologists and humanitarians.

TABLE 2.—DISTRIBUTION OF CASES REPORTED BY STATES.

| | | | |
|---|---|---|---|
| Alabama | 30 | Massachusetts | 5 |
| Arizona | .. | Michigan | 34 |
| Arkansas | 3 | Minnesota | 3 |
| California | 8 | Missouri | 12 |
| Colorado | 2 | Mississippi | 5 |
| Connecticut | 39 | Nebraska | 2 |
| Delaware | .. | New York | 22 |
| District of Columbia | 371 | North Carolina | 1 |
| Florida | 1 | New Jersey | 1 |
| Georgia | 6 | South Carolina | 3 |
| Idaho | .. | Pennsylvania | 190 |
| Illinois | 138 | Texas | 47 |
| Indiana | 2 | Tennessee | 16 |
| Iowa | 1 | Rhode Island | 2 |
| Kansas | 1 | Virginia | 2 |
| Kentucky | 6 | Vermont | 8 |
| Louisiana | 274 | Wisconsin | 1 |
| Ohio | 6 | All other states reported | 490 |
| Maine | 3 | | |
| Maryland | 60 | Total | 1307 |

It will be noted that no state of any considerable population is exempt from tetanus neonatorum, but in some states, particularly at the south, or where there is illicitry and a low standard of morals, it prevails most extensively.

WIDESPREAD DISTRIBUTION OF TETANUS NEONATORUM.

In a paper read before the Royal Irish Academy in 1789, Dr. Joseph Clark makes the following statement, based on his connection with the Dublin Lying-in Asylum. He says:

At the conclusion of the year 1782, of the 17,650 infants born living in the lying-in hospital of this city, 2,944 had died within the first fortnight, i. e., every sixth child. The disease in 19 cases out of 20 was tetanus neonatorum.

From the time that the wards were better ventilated by reason of Dr. Clark's observations in 1782 to the time of the preparation of his paper, 8,033 infants were born in the hospital, while only 419 had died, being about 1 to 19. In the town of Fulda, Germany, in 1802, Dr. Schneider saw six cases in fourteen days, while a midwife in the same place states that she had seen more than sixty cases in nine years.

Tetanus neonatorum has been terribly fatal in various parts of the world. For years it was endemic to the island of Heimac, Iceland, to such an extent as almost to depopulate that section. It was very fatal in the island of St. Kilda, off the coast of Scotland, up to within a few years ago, when by no other measures than simple aseptic dressing of the umbilical cord, the cases were reduced to almost *nil*. G. Miron[2] states that in Bucharest, 233 children die of tetanus neonatorum every year, and in the entire district of Roumania 14,807 succumb to this disease annually. An emulsion prepared from the umbilical cords and injected into mice after the culture method of Wright, showed the presence of tetanus bacilli and spores.

OCCURRENCE OF TETANUS NEONATORUM AMONG THE NEGROES.

The unhygienic living of the negroes of the south, among whom this disease makes great ravages, is best described by Dr. Greensville Dowell:[3]

When called to see their children, we find their clothes wet around the hips, and often up to the armpits with urine. The child is thus presented to us, when on examination, we find the umbilical dressing not only wet with urine, but soiled likewise with feces, freely giving off an offensive, urinous, and fecal odor, combined with a gangrenous fetor, arising from the decomposing matter due to desiccation of the cord.

The same author[4] states:

In New Orleans, in 1860, the death statistics show that tetanus neonatorum was the most fatal of all diseases except phthisis.

Hartigan[5] quotes Grier of Mississippi on the "Negro and His Diseases" as follows:

The first form of disease which assails the negro race among us is trismus. No statistical record, I suppose, has ever been attempted, but, from my individual experiences, I am almost willing to affirm that it decimates the African race on our plantations within the first week of independent existence. I have known more than one instance in which, of the births for a year, one-half became the victims of this disease, and that despite the utmost watchfulness and care.

CAUSATION.

Former theories as to the cause of tetanus neonatorum have been entirely disproved since the demonstration of the tetanus bacillus of Nicolaier in 1884. Many subsequent experiments, which prove this disease to be specific in origin, have also been made. The theory advanced by Dr. J. Marion Sims, in 1846, that tetanus neonatorum is of centric origin, depending on pressure exerted on the medulla oblongata, by inward displacement of the occipital bones, at birth, has been entirely controverted. Moschion, who lived in the first century of the Christian era, stated that stagnant blood in the umbilical vessels sometimes produced a dangerous disease in the newborn infant, and it is supposed that he referred to tetanus infantum.

TABLE 3.—SEASONAL OCCURRENCE OF TETANUS NEONATORUM.

| | No. of cases. | | No. of cases. |
|---|---|---|---|
| January | 12 | August | 9 |
| February | 10 | September | 14 |
| March | 24 | October | 9 |
| April | 5 | November | 9 |
| May | 6 | December | 7 |
| June | 11 | | |
| July | 18 | Total | 133 |

SEASONABLE OCCURRENCE OF TETANUS NEONATORUM.

According to our collective investigations as set forth in Table 3, the months of March, July, September, January and June give the largest number of cases, the five months showing a total of 60 per cent. This apparent departure from the usual rule of adult tetanus may be explained by the fact that the weather the year round in the southern states is warm, and compares with the summer temperature of the northern states.

1. The Journal A. M. A., July 29, 1905.
2. Allg. W. Med. Ztg., March 13, 1906, vol. li, No. 2, p. 118.
3. Nashville Jour. Med. and Surg., 1863.
4. Galveston Med. Jour., 1867, vol. xi, p. 505-509.
5. "Lockjaw in Infants," 1884.

AGES OF PATIENTS IN CASES OF TETANUS NEONATORUM.

That the appellation "nine days' fits" is not a misnomer is proved by Table 4, which shows the greatest number of cases to occur on or before the ninth day, corresponding to the time of the dropping off of the cord, thus leaving an open wound to favor infection; the susceptibility then rapidly decreases.

TABLE 4.—AGES OF PATIENTS IN TETANUS NEONATORUM CASES.

| Age in Days. | No. of Cases. | Age in Days. | No. of Cases. |
|---|---|---|---|
| Less than 1 day | .. | .. | .. |
| 1 | 7 | 8 | 22 |
| 2 | 8 | 9 | 12 |
| 3 | 19 | 10 | 11 |
| 4 | 10 | 11 | 2 |
| 5 | 19 | 12 | 7 |
| 6 | 22 | 13 | 1 |
| 7 | 21 | 14 | 5 |
| Nine days or less | | | 146 cases. |
| Less than 15 days | | | 173 cases. |
| Between 9 and 15 days | | | 27 cases. |
| Between 6 and 9 days | | | 77 cases. |
| Less than 6 days | | | 72 cases. |
| Over 15 days | | | 23 cases. |

Table 5 indicates at a glance in a general way the range by days of the period of incubation and its relation to the mortality rate of this disease, which is 57.2 per cent.

TABLE 5.—INCURATION TO MORTALITY.

| Incubation, days. | Cases. | Deaths. | Recoveries. |
|---|---|---|---|
| One day or less | 18 | 7 | 11 |
| 2 | 11 | 9 | 2 |
| 3 | 18 | 13 | 5 |
| 4 | 14 | 12 | 2 |
| 5 | 17 | 15 | 2 |
| 6 | 30 | 18 | 12 |
| 7 | 24 | 16 | 8 |
| 8 | 24 | 12 | 12 |
| 9 | 10 | 2 | 8 |
| 10 | 11 | 4 | 7 |
| 11 | 3 | 2 | 1 |
| 12 | 3 | 1 | 2 |
| 13 | 1 | 0 | 1 |
| 14 | 5 | 0 | 5 |
| 15 | 0 | 0 | 0 |
| Over 15 days | 12 | 4 | 8 |
| Total cases | 201 | 115 | 86 |

INFECTIOUSNESS.

Some local epidemics prove its terrible infectiousness. In 1901 there were 32 deaths from tetanus in Baltimore. Of these, 25 were of tetanus neonatorum in children under twenty days old, all of them in the hands of midwives; 12 of them were within a few blocks of each other and all from one midwife. In Maryland, in 1902, there were 58 deaths from tetanus, of which 33 were of tetanus neonatorum.

Kleiner[6] reports a case of tetanus neonatorum in a twin, which was immediately isolated from the mother and the other child. In four days the child was brought back to the mother, who insisted on having it. Five days later the second child developed tetanus; both eventually recovered.

REPORTS OF OCCURRENCES OF TETANUS NEONATORUM, REPORTED BY PERSONAL CORRESPONDENCE WITH DOCTORS AND BOARDS OF HEALTH, AND CULLED FROM THE LITERATURE.

Wilhite,[7] of Pennsylvania records three cases of tetanus neonatorum occurring in triplets, two of whom died and one recovered. O. A. Fleisburg[8] reports the case of a Jewish boy, circumcised on the eighth day, who developed tetanus neonatorum three days later, with suppurating wound. The rite had been performed in the usual manner; he died on the thirteenth day of life and the fifth day of the disease.

6. Gross Medical College Bulletin, 1895.
7. Am. Jour. Med. Sciences, 1875, vol. lxix, p. 375.
8. Northwestern Lancet, Feb. 15, 1889, p. 64.

In Vermont, from 1900 to 1904, 34 persons died from tetanus, of which 7 occurred in infants. In Santa Clara County, Cal., 7 deaths from tetanus occurred between 1900 and 1905, inclusive, of which one was in an infant. R. B. Gilbert[9] reports the following deaths from tetanus neonatorum:

New Orleans, 249 cases, 1 year of age.
Cuba, 369 cases, 2 years of age.
Jamaica, 25 per cent. of the mortality in the negro population every year from tetanus neonatorum.

In Philadelphia, during the ten years ending with 1881, there were 311 deaths from traumatic tetanus, and 166 of tetanus neonatorum, of which 81 were males and 85 females. From 1898 to 1902, inclusive, there were 123 deaths from tetanus in Michigan, of which 32 were of tetanus neonatorum. In Springfield, Ill., in 1902, there were 144 deaths from tetanus, of which 33 were under one year of age. In 1903 there were 125 deaths from tetanus; of these 60 were under one year of age. In 1904 there were 136 cases, of which 37 were of tetanus neonatorum.

In Maine, in 1903, there were three deaths from tetanus neonatorum. The superintendent of vital statistics of Connecticut writes us under date of Sept. 15, 1905, as follows:

Its occurrence in the recent five years has averaged only 7.8 per cent. of the cases annually, and they were scattered through 168 towns of the state, showing no preference for any particular locality. In 104,676 births in the five years (1900-05), only 38 deaths were ascribed to that cause.

Dr. William C. Woodward, health officer of the District of Columbia, Washington, D. C., writes:

I beg to submit the following statement relative to the mortality in the District of Columbia, from tetanus neonatorum since 1890:

| Year. | White. | Col. | Total. | Year. | White. | Col. | Total. |
|---|---|---|---|---|---|---|---|
| 1890 | 17 | 31 | 48 | 1897 | 8 | 12 | 20 |
| 1891 | 9 | 30 | 39 | 1898 | 14 | 13 | 27 |
| 1892 | 16 | 33 | 47 | 1899 | 5 | 9 | 14 |
| 1893 | 15 | 20 | 35 | 1900 | 11 | 10 | 21 |
| 1894 | 5 | 17 | 22 | 1901 | 12 | 7 | 19 |
| 1895 | 11 | 12 | 23 | 1902 | 7 | 9 | 16 |
| 1896 | 8 | 9 | 17 | 1904 | 3 | 4 | 7 |

Total cases, white, 145; colored, 226; all, 371.

In considering the prevalence of this disease among the white people as compared with its prevalence among colored people, you may fairly consider that the white population in the District of Columbia is twice that of the colored population. It may be of interest also to know that no new midwives have been licensed in this District since 1896, except after examination.

INTERESTING POINTS IN CONNECTION WITH ORIGINAL CASES REPORTED.

In Case 1 delivery was by midwife. Doctor was not called until seventh day.

In connection with Case 3 Dr. Louis Fischer, New York, says he has seen other cases in the practice of midwives and careless physicians who disregarded asepsis.

Case 4, reported by Dr. Bullard, was one with umbilical infection seen years ago. Recovery. No data appended.

In Case 5 dry, high temperature, 110 F., was supposed cause, in an apparently extra healthy child under good conditions. Parents were well kept; there were other children; confinements had been easy.

In Case 6 the nurse previously engaged could not be gotten, and an old negress was secured. She was untidy and lived over

9. American Practitioner and News, vol. xxxvi, 1903, p. 288.

TABLE 7.—ORIGINAL CASES REPORTED TO AUTHORS.

| Case No. | Reporter. | Year. | Month. | Sex and Race. | Age. | Infection Atrium. | Incuba. Days. | Duration Days. | Mortality. | Serum Treatment. | Local and General Treatment. |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | J. Henry Barbat, San Francisco. | 1892 | ... | .... | 7 d. | Umbilical Cord. | 7 d. | 2 d. | 1 | | |
| 2 | C. C. Gratiot, Shullsburg, Wis. | 1903 | Nov. | F. W. | 9 mos. | ? | 13 d. | 3 d. | 1 | 10 c.c. every six hours. | Ear kept thoroughly aseptic with nitrate of silver. |
| 3 | Louis Fischer, New York. | 1905 | Sept. | F. W. | 2 d. | Umbilical Cord. | ? | 5 d. | 1 | 5 c.c. on third day. | Hot bichlorid to umbilicus. Eliminative treatment. |
| *4 | J. W. Bullard, Pawnee, City, Neb. | | | | | | | | | | |
| 5 | W. T. Freeman, Needles, Cal. | 1905 | July. | F. W. | .... | Umbilical Cord. | 1 d. | few hours. | 1 | ..... | Ice water to head; cold baths. Liq. ammon., amyl., nit. inhalations. |
| 6 | Samuel E. Woody, Louisville, Ky. | 1903 | ... | M. W. | New Born. | Umbilicus.... | 7 d. | 5 d. | 1 | ..... | $H_2O_2$ cleansing. Potassium brom. and chloral with chloroform inhalations. |
| 7 | J. P. Furniss, Selma, Ala. | 1905 | July. | M. C. | 10 d. | ? | 9 d. | 6 d. | 1 | 10 c.c. on third day. | Bromid and calomel in milk. |
| 8 | G. B. Forcue, Waco, Texas. | 1897 | ... | F. C. | 14 d. | | not stated. | 6 d. | 1 | | |
| 9 | B. W. Goldsborough, Cambridge, Mass. | 1898 | ... | M. W. | 8 d. | Umbilical Cord. | few days. | 10 d. | 0 | Started tenth day. —10 c.c. | Cord injected with 1-2000 bichlorid and boric acid used; sed., brom. and chloral also used. |
| 10 | E. T. Brady, Abingdon, Va. | 1895 | Jan. | F. W. | 7 d. | Cord..... | ? | 2 d. | 1 | ..... | Nitrate silver and tinct. iodin. Morphin, chloral and bromid per rectum; chloroform by inhalation. |
| 11 | F. C. Goldsborough, Baltimore. | 1901 | Sept. | M. W. | 10 d. | Umbilicus.... | 8 d. | 2 d. | 1 | mxviii - day of onset. | Chloral. |
| 12 | George B. Kalb, Erie, Penn. | 1897 | ... | M. W. | 7 d. | Umbilicus.... | .... | few days. | 1 | | |
| 13 | J. W. Brandon, Clarksville, Tenn. | 1897 | ... | M. W. | 5 d. | Umbilicus.... | 5 d. | 2 d. | 1 | ..... | Antiseptic dressings, bromids and chloral. |
| 14 | J. W. Brandon, Clarksville, Tenn. | 1899 | ... | F. W. | 3 d. | Umbilicus.... | d. | 2 d. | 1 | ..... | Antiseptics, bromids and chloral. |
| 15 | F. H. Long, Madison, Neb. | 1905 | Jan. | M. W. | 6 d. | Umbilicus.... | 6 d. ? | 4 d. | 0 | ..... | $H_2O_2$ locally, also bismuth sub-nit. |
| *16 | J. G. Eberle, Fort Smith, Ark. | | | | | | | | | | |
| 17 | R. C. Massenburg, Towson, Md. | 1886 | ... | M. W. | 6 d. | Umbilicus.... | 6 d. ? | 2 d. | 1 | | |
| *18 | J. Henry Barbat, San Francisco. | | | | | | | | | | |
| *19 | G. K. Vanderslice, Phoebus, Va. | | | | | | | | | | |
| *20 | Louis Fischer, New York. | | | | | | | | | | |
| 21 | G. B. Forcue, Waco, Texas. | 1889 | ... | M. W. | 10 d. | Umbilicus.... | 10 d. | 2 d. | 0 | | |
| 22 | W. P. Beall, Greensboro, N. C. | ... | ... | C. | .... | ..... | .... | .... | 1 | | |
| *23 | Dan Millikin, Hamilton, Ohio. | | | | | | | | | | |
| 24 | Wm. Simpson, San José, Cal. | 1901 | ... | F. W. | 11 d. | Umbilicus.... | 11 d. | .... | 1 | | |
| 25 | J. H. Tebbetts, Bollister, Cal. | 1883 | ... | .... | 7 d. | Umbilicus.... | 7 d. | .... | 1 | | |
| *26 | J. W. Grisard, Winchester, Tenn. | | | | | | | | | | |
| 27 | H. E. Conley, Cannon Falls, Minn. | 1903 | Sept. | M. | 16 d. | Cord..... | 16 d. | .... | 1 | | |
| 28 | J. T. Asbury, Wabasha, Minn. | 1903 | Nov. | M. | 16 d. | Cord..... | 16 d. | .... | 1 | | |
| 29 | W. H. Rowe, St. James, Minn. | 1903 | Feb. | .... | 8 d. | Cord..... | 8 d. | .... | 1 | | |
| 30 | E. D. Keyes. Winona, Minn. | 1903 | June | M. | 6 d. | Cord..... | 6 d. | .... | 1 | | |
| *31 | S. L. Lee, Carson City, Nev. | 1905 | | | | | | | | | |

* See notes appended.

a stable in an alley near the patient's house; probable source of infection.

Dr. J. P. Furniss, Selma, Ala., reporting Case 7, says: "Rarely met with except in negroes and practice of midwives." While registrar of vital statistics (20 to 30 years), there was an average of eight cases annually. Population then 8,000, but lately it has diminished.

Cases 13 and 14 occurred in the same family, the only cases Dr. J. W. Brandon had observed in fifteen years.

Case 15 was the only case recovered in three years' practice.

Case 16 was reported by Dr. Eberly, who saw six cases at different times, all occurring in the practice of negro midwives among negro infants. All developed within a week after birth, and all terminated fatally.

Case 18, reported by Dr. Barbat, was a case in a baby seven days old, which was due to infected umbilicus. Delivery by midwife. Baby died in two days.

Case 19, reported by Dr. Vanderslice, of Phoebus, Va., was a case in the practice of a midwife.

Case 20, reported by Dr. Fischer, who saw ten cases during service at German Poliklinik, with a history of continued spasms since birth. They belong to the poor, where faulty hygiene exists.

Cases 3 and 21 both occurred in the practice of negro midwives, the cord not being treated properly.

Case 23, reported by Dr. Dan Mullikin, resulted from mutilation of the groin with blunt hook, during a difficult instrumental delivery.

Case 26, reported by Dr. Grisard, who saw two cases in thirty-five years; none in past eighteen years. No data appended.

Case 31 was the only case seen by Dr. Lee in Nevada in thirty-five years.

### DURATION TO MORTALITY.

Table 6 shows that of 129 cases lasting five days or less, there were 95 deaths, or a mortality of 72.1 per

TABLE 6.—DURATION TO MORTALITY.

| Days. | Cases. | Deaths. | Recoveries. |
|---|---|---|---|
| One or less..... | 37 | 34 | 3 |
| 2 ..... | 39 | 30 | 9 |
| 3 ..... | 25 | 11 | 14 |
| 4 ..... | 15 | 9 | 6 |
| 5 ..... | 14 | 11 | 3 |
| 6 ..... | 5 | 4 | 1 |
| 7 ..... | 10 | 4 | 6 |
| 8 ..... | 4 | 2 | 2 |
| 9 ..... | 0 | 0 | 0 |
| 10 ..... | 6 | 1 | 5 |
| 11 ..... | 1 | 0 | 1 |
| 12 ..... | 6 | 2 | 4 |
| 13 ..... | 0 | 0 | 0 |
| 14 ..... | 1 | 1 | 0 |
| 15 ..... | 5 | 0 | 5 |
| Over 15 days ..... | 22 | 4 | 18 |
| Total cases .... | 189 | 113 | 76 |

cent. Of 60 cases lasting over five days, 18 died and 42 recovered, or a death rate of 30 per cent. These figures closely parallel our general observations in adult tetanus.

SUGGESTIONS AS TO PROPHYLAXIS.

Dr. J. F. Hunter, secretary of the Mississippi State Board of Health, writes:

It would be impossible for me to give you the localities from whence these cases arise. I should judge, however, that most of them were instances in which midwives attended rather than the doctors. Our law requires all physicians to undergo an examination before the State Board of Health before they are allowed to practice in the state of Mississippi, but no examination is required of midwives, who are negroes, as a rule, and attend many cases of labor in the country. Of course, they are not aseptic, not even knowing the principles of aseptic measures. I think that if all places had a law requiring midwives to stand an examination, we could have a much less mortality from tetanus neonatorum.

In the light of our accurate, scientific knowledge of this disease, the education of persons, directly or indirectly concerned with the care of confinement cases, should be insisted on, especially as to the necessity for rigid, aseptic, hygienic care of the umbilical stump, and its treatment along the same rigid lines as any other surgical wound. To this end, a law in every state requiring registration of midwives should be enacted.

Our medical colleges should teach this phase of the matter with greater earnestness than is now being done. The subject of the tetanus bacillus, which at present is dismissed in a line or two, should be more fully presented. State boards of health should issue circulars of information for the guidance and direction of midwives and others who attend these cases. Charity societies and other philanthropic institutions should also take up the question and thus cause a widespread dissemination of the simple measures necessary for the prevention of this dread disease.

DISCUSSION.

Dr. R. B. Gilbert, Louisville, Ky., said that since very few patients ever recover in cases of tetanus neonatorum, the subject ought to be studied with very much more care than it is. He doubts whether tetanus neonatorum is due to the poisons on the surface, and thinks it rather due to the septic matter internally. He has seen only two patients get well and the recoveries were within two months of each other. The treatment outside of irrigation with a normal salt solution was potassium bromid and chloral hydrate.

Dr. William T. Watson, Baltimore, referred to a typical case in which he had removed at autopsy the umbilicus and all the thoracic viscera and sent them to the Johns Hopkins Hospital Laboratory, where they were carefully examined, but the tetanus bacillus was not found. He asked Dr. Anders in how many of his cases the tetanus bacillus was found.

Dr. James M. Anders, Philadelphia, said that in the group of cases referred to, examination of the cord showed the presence of the tetanus bacillus. There were only a few cases in which this test was carefully and accurately made. In the majority of the cases reported the diagnosis was based on the clinical findings.

**Thyroid Tumor and Dysmenorrhea.**—Giorgi relates in *Ginecologia* for August 31, the case of a young woman who had suffered for years from very painful and irregular menses. Enlargement of the thyroid gland was first noticed at 13, and at 15 the thyroid began to increase rapidly in size. At 17 this circumference of the neck was 45 cm., and the thyroid was extirpated, leaving only the upper part of the right lobe. The tumor proved to be an adenoma with multiple nodules. Menstruation has been regular and free from pain during the two years since, commencing the second month, after the operation.

## Clinical Notes

## HYMENOLEPIS NANA AND HYMENOLEPIS DIMINUTA, WITH REPORT OF CASES.

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HYMENOLEPIS NANA.

*Synonyms: Tænia murina, Tænia nana, Tænia ægyptica; Diplacanthus manus, Hymenolepis nana, Hymenolepis murina.*

The dwarf tapeworm was found in man for the first time by Bilharz, in Cairo, Egypt, in 1851. He recovered a "countless number" of them at a postmortem on a boy who had died of meningitis. In September, 1904, Ransom[1] was able to collect from the literature 118 cases of *Hymenolepis nana* infection of man. The geographic distribution of these cases is as follows: Egypt, 3; England, 1; Italy, 75; Servia, 1; Russia, 3; Germany, 4; Siam, 1; Japan, 2; North America, 24; South America, 4. I have been unable to find any cases recorded in North America other than the above mentioned by Ransom.

The 24 North American cases are distributed as follows:

| | |
|---|---|
| Philadelphia, 1872, Spooner[2] | 1 case. |
| Galveston, Texas, 1902, Moore[3] | 1 case. |
| Charleston, 1902, Stiles[4] | 1 case. |
| Macon, Ga., 1902, Stiles[4] | 3 cases. |
| Washington, D. C., 1903-4, Hygienic Lab. | 12 cases. |
| Amarillo, Texas, 1903, Magnenat | 4 cases. |
| Fort Porter, N. Y., 1904, Hallock[5] | 2 cases. |

Hallock's cases were probably imported, as they occurred in soldiers who had returned from the Philippines just eight and nine months previously.

*Description of Parasite and Ova.*—The length of *Hymenolepis nana* is variously given by observers as from 2.5 to 40 mm.; the breadth of mature proglottides, from 0.5 to 0.9 mm., and the number of segments, from 100 to 200. The head is subglobular, elongated, possessed of a retractile rostellum surrounded by a single row of hooklets numbering from 22 to 30, and has 4 suckers. The neck is slender and unsegmented. The segments of the strobila gradually increase in breadth toward the posterior extremity, the last 15 to 40 proglottides being usually stuffed with ova. Occasionally a sterile segment is seen between two fertile ones. The genital pores are single, near the anterior border of the segment and usually on the left side. Each oviparous segment contains from 80 to 180 ova. The ova are round or oval, measuring, according to different observers, from 26 to 58 micro-millimeters in diameter. Ransom's measurements were from 36x32 to 56x42 micro-millimeters. Miura and Yamazaki found the average of nine ova to be 50.7x42.9. Between the outer membrane and the inner one which encloses the embryo is a hyaline substance which surrounds the latter like a wide halo. Within the embryo can usually be distinguished five or six hooklets lying parallel or radially. A few very delicate filaments may commonly be de-

1. Ransom: "An Account of the Tapeworm of the Genus *Hymenolepis* Parasitic in Man," Bull. No. 18, Hyg. Lab. U. S. Public Health and Marine-Hospital Service, Washington.
2. Spooner: Amer. Jour. Med. Sci., vol. lxv, p. 136.
3. Moore: Med. News, Feb. 6, 1904.
4. Stiles: "Illustrated Key to the Cestode Parasites of Man," Bull. No. 25, Hyg. Lab. U. S. Public Health and Marine-Hospital Service, Washington.
5. Stiles: "Prevalence and Geographic Distribution of Hookworm Disease in the United States," Bull. No. 10, Hyg. Lab. U. S. Public Health and Marine-Hospital Service, Washington.
6. Hallock: The Journal A. M. A., vol. xlii, p. 891.

tected arising from the opposite poles of the inner membrane and permeating the hyaline substance. The average of several specimens from my cases was: entire length of worm, 18 mm.; scolex, length .36 mm., breadth .28 mm.; length of hooklets, 14 microns; diameters of suckers, 86 microns; breadth of neck, 0.14 mm.; length of mature proglottides 0.15 mm., breadth, 0.57 mm. Ten ova averaged: outer membrane 50x42 microns, inner 32x30 (Fig. 1).

The only immediate hosts yet determined are the rat and probably man; the definite hosts are man and certain species of rats and mice. Direct infection from man to man seems possible. The length of life of individual worms is undetermined, though ova may persist in the feces during periods varying from two months to two and a half years. The number of worms present in a single individual may reach from 4,000 to 5,000.

"*Hymenolepis nana* is much more common among children than among adults, and males are more often infected than females. From five to ten years seems to be the age most frequently affected" (Ransom).

*Symptoms.*—A wide variety of symptoms has been attributed to infection with *H. nana*. Of these the following are of most frequent occurrence: increased or

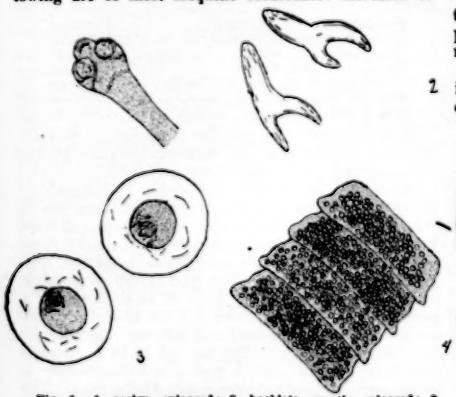



Fig. 1.—1, scolex, enlarged; 2, hooklets, greatly enlarged; 3, ova, greatly enlarged; 4, proglottides containing ova, enlarged.

diminished appetite, dyspepsia, vomiting, abdominal pain, diarrhea, constipation, spasms, paralysis, epilepsy, strabismus, diplopia, headache and dyspnea. The symptoms are sometimes severe.

*Diagnosis.*—The diagnosis is established solely by the discovery of the parasite or its ova in the feces.

*Treatment.*—The only remedy of value in the treatment of *Hymenolepis nana* is male fern. Manson[7] makes the statement that the worms are readily expelled by this agent, but an analysis of the cases in which the results of treatment by male fern were verified by subsequent microscopic examination of the feces shows that more than one treatment is usually necessary. There are 22 cases in which the results were thus followed up. Of these there are only 5 cases in which no ova were found after one treatment with male fern; in 6 cases two treatments were necessary; in 5 cases three doses were needed; in 1 case four or five treatments were administered; in 4 cases, after one dose, the ova were still present, but no further treatment is recorded; in 1 case after "several" treatments the ova persisted in the feces, and in 2 of the cases in which three doses were given the ova were yet found after the last dose. The drug should, of course, be given only after thorough purgation by salines.

The detection of the worm in the feces after anthelmintic treatment is sometimes very difficult. There are 30 cases in which the results of the search for the worm are recorded. In 7 of these, or nearly 25 per cent., no worms were found. Moore[8] adopted the plan of putting small quantities of the fecal matter in a clear glass beaker filled with water.

Hallock[9] describes his method as follows: "The method which has proved most satisfactory in finding the parasites is to dilute the stool with a considerable quantity of water, and then to run it out in a very thin layer on a large plate of window glass having a black background and placed in a strong light, the examination being made with a large reading glass. The worms appear as very minute translucent or opalescent shreds not unlike mucus, and the greatest care is required lest they be overlooked."

I used a large flat baking pan known in the South as the "biscuit pan." This I painted black and at one end punctured a row of small holes so that the diluted feces might be retained or released without agitating.

The following constitute cases Nos. 25, 26, 27 and 28 in North American literature. The patients did not come to me for treatment, but were discovered in the routine examination of feces during an investigation which I was making as to the frequency of uncinariasis in this section. The discovery of four cases during a limited investigation leads me to concur in the opinion of Stiles and of Moore that this parasite is commoner than hitherto regarded.

Fig. 2. — *Hymenolepis diminuta*. Part of mature proglottid containing ova, enlarged.

I am indebted to the work of Ransom for much information, to Dr. Stiles for the identification of specimens and to Dr. Bean for assistance at Lagrange.

CASE 1.—A. B., white, female, aged 7, was born in Montgomery County, Texas, where she lived two or three years when her father moved to Luling, in Caldwell County. Two years later they moved to Orange, Texas, where they lived four months. In September, 1903, they left Orange in a wagon for Lee County, Arkansas. On this trip they passed through the northwest corner of Louisiana, making a stop of a month at Ruston. After staying in Lee County for four months they moved to Bradley County, Ark., where they remained until December, 1905, when they returned to Lee County.

*Personal History.*—She had the usual diseases of childhood, chills every year or two, and malarial fever while living in Orange. She has been pale and delicate since a small child and has spasms every time she has a slight fever. She had several chills this summer, the last one on June 27, 1906, and had spasms with each one. All this year she has complained of pains in the stomach, has recently had several attacks of diarrhea and has been vomiting independently of the chills she has had. Her appetite has always been good, occasionally ravenous, especially for the past few weeks. She has always been slow in recuperating from even a mild sickness. Examination of the feces on July 14 showed an average of six ova of *Hymenolepis nana* to the cover-glass preparation.

*Examination.*—July 19, 1906: General development was normal, weight 46; mental condition bright, probably above

7. Manson: "Tropical Diseases," New York, 1903.

average; temperature, 98.6; pulse, 96, regular, tension normal; there was marked pallor. Perspiration was profuse on slight provocation. There was no edema. The muscles of the arms were flabby, those of the legs were developed. The conjunctival vessels were visible; pupils reacted to light and accommodation. Appetite was ravenous, she "eats all the time." Tongue was anemic, not coated. Flatulence and nausea were present and there was pain in the epigastric region; enteralgia and marked meteorism were also present. Bowels were regular. Heart was negative; no precordial pain or palpitation. There was dyspnea on slight exertion; no dizziness or syncope. The patellar reflex was diminished. Spleen and liver were normal. Urine was negative.

Blood: Hb. 90 per cent., leucocytes, 8,400, red cells, 4,600,000. Differential leucocyte count: small lymphocytes, 25.5 per cent., large lymphocytes, 5 per cent., polymorphonuclears, 58 per cent., eosinophiles, 11.5 per cent.

*Treatment.*—She was allowed only liquids on July 19, and was given a full dose of salts at bed time. On the morning of July 20, she was given 20 drops of oleoresin of male fern at 8 o'clock and at 10 another saline.

*Result.*—The stools were examined at 5 p. m. and about a tablespoonful of *H. nana* recovered. Some of these worms were sent Dr. C. Wardell Stiles, who confirmed the diagnosis (9922 U. S. P. H. and M. H. S.).

*Subsequent History.*—The father repeated the malefern July 26 and August 8; microscopic examination of the feces showed 16 ova to the cover-glass preparation.

On August 15, after preparation by salines, 20 drops of male fern were given on an empty stomach and a large number of worms were expelled. From a partial count I estimate that at least 500 were passed as a result of this, the third treatment.

On August 18 she had a rise of temperature to 104; blood examination showed estivoautumnal rings and the fever responded to quinin after 36 hours. This was the first time she ever had fever without "spasma."

On August 22, fecal examination was negative.

On September 5, I learned that the child was gaining flesh and looks better than she has ever looked.

Case 2.—R. G., colored, male, aged 10, was born in Clarksdale, Miss., where he lived until 5 years ago when he moved to Lagrange, Lee County, Ark.

*History.*—He has had occasional chills and fever and three years ago had otitis media which discharged for several months. He has corneal opacities in both eyes and occasionally has enlarged cervical lymphatics, both dating from an attack of measles in infancy. In July, 1906, he had dysentery which lasted for 10 days.

Appetite is good, regular, not ravenous. He suffers often with nausea and occasionally vomits. He complains at times of dizziness and headache and often of dyspnea.

Feces: An examination of the feces showed from 2 to 10 ova of *Hymenolepis nana* to the cover-glass preparation.

*Examination.*—Aug. 5, 1906. Development slender. Temperature, 98.4; pulse, 100. There was no edema. The muscular system was normal. He had pain in epigastric region and enteralgia; meteorism was marked. Bowels were regular. Heart was negative. Liver and spleen were normal.

Blood: Hb., 90 per cent.; small mononuclears, 17 per cent.; large mononuclears, 5 per cent.; polymorphonuclears, 62 per cent.; eosinophiles, 15 per cent.

*Treatment.*—Male fern given between two doses of salts expelled a number of *H. nana*.

August 24: Examination of the feces showed a few ova of *H. nana*. I was unable to obtain subsequent specimens of feces.

Case 3.—M. T., white, female, aged 11, was born in St. Francis County, Ark., where she lived until 5 years of age, when her father moved to Lagrange, Ark. She had a continued type of fever at the age of 2 and has had an occasional chill since.

*History.*—Her appetite varies from ravenous to none. She has had frequent nausea and occasionally vomiting for the past four years. She has had frequent headache.

*Examination.*—Aug. 5, 1906. Patient was undeveloped for her age. Temperature was 98, pulse, 84. There was marked pallor; no edema. The muscles were flabby. There were pain and tenderness in the epigastrium and enteralgia. There was marked tympany. Bowels were regular. Liver and spleen were negative.

Urine: Color, reddish yellow; acid reaction, specific gravity, 1,030, no albumin or sugar. Microscopic examination was negative.

Blood: Hb., 70 per cent.; small mononuclears, 13 per cent.; large mononuclears, 23 per cent.; polymorphonuclears, 55 per cent.; eosinophiles, 9 per cent.

Feces: Examination of the feces showed from 4 to 10 ova of *H. nana* to the cover-glass preparation.

*Treatment and Result.*—Male fern was administered August 6. Owing to a misunderstanding the stools were not preserved for examination. August 24, microscopic examination of feces showed a few ova of *H. nana*. The treatment was directed to be repeated but I could not obtain a further specimen of the feces.

Case 4.—T. F., white, male, aged 5, was born and raised at Lagrange, Ark.

*History.*—He was never sick until July, 1904, when he began having chills and fever and was ill until December, 1904. On the second day of this illness he had a convulsion. His father, who is a physician, suspecting that he had worms, has frequently given him santonin and calomel. He passed an ascaris last fall. For the past two months he has rarely eaten any breakfast and when he has done so he has invariably vomited it. At such times he would complain of dyspnea and choking. He has had occasional attacks of diarrhea for two years. His mother noticed stomatitis and edema of ankles about a week ago. Appetite varies from ravenous to none. He complained of pains in abdomen a good deal for a week. He has nausea every morning. He has frequent headache and dizziness, also dyspnea.

*Examination.*—Aug. 5, 1906: Development is small; muscles are flabby. Temperature was 98; pulse, 100. There was moderate pallor. Bowels were loose, mild diarrhea. There was marked meteorism. Heart was slightly irregular, otherwise normal. Liver and spleen were normal.

Urine: Specific gravity, 1032, acid reaction, small amount of albumin, no sugar. Microscopic examination was negative.

Blood: Hb., 80 per cent.; small mononuclears, 13 per cent.; large mononuclears, 16.6 per cent.; polymorphonuclears, 43 per cent.; eosinophiles, 26 per cent.; mast cells, 1.4 per cent.

Feces: Microscopic examination of the feces disclosed an extraordinary number of ova of *Hymenolepis nana*. In two cover-glass preparations in which the ova were counted 101 and 102.

*Treatment and Result.*—On August 5 he was given 20 drops of male fern between two doses of salts. He vomited the male fern in 15 minutes.

August 9: The male fern was given at 6 a. m. as before; an action of the bowels at 12 m. was negative.

August 25: Fecal examination negative.

September 10: Dr. F., the child's father, wrote me: "He is not troubled any more with sick stomach, his appetite is good, no symptoms whatever of worms and looks better than he has for the past twelve months."

### HYMENOLEPIS DIMINUTA.

*Synonyms: Hymenolepis diminuta, Tænia diminuta, T. leptocephala, H. flavopunctata, T. flavopunctata, T. flavomaculata, T. minima, T. varesina* (Fig. 2).

In 1858 Weinland first described a case of *Hymenolepis diminuta* occurring in man. The parasites were recovered in 1852 from a healthy infant, 19 months old. Two fragments labeled as coming from man were found in the museum at Alfort, France, by Railliet before 1810 and were identified as *H. diminuta* by both Railliet and Zschokke.

Braun[8] describes the parasite as follows: "This species measures 20 to 60 cm. in length and up to 3.5 mm. in breadth; there are from 600 to 1,000 segments. The head is very small (0.2 to 0.5 mm.); it is club-shaped

8. Braun: "The Animal Parasites of Man." New York, 1906.

and has a rudimentary unarmed rostellum; the neck is short; the mature segments are 3.5 mm. in breadth, 0.66 mm. in length; the eggs are round or oval (0.060-0.070:0.070-0.086 mm.). The egg shell is yellowish and thickened, with indistinct radial stripes; embryonal shell double, thin; the outer one somewhat pointed at the poles; oncosphere 0.028-0.036 mm."

The following is a synopsis of cases which have been reported in man:

| | |
|---|---|
| Alfort, France, by Railliet before 1810 | 1 case. |
| Boston, 1842, Weinland | 1 case. |
| Philadelphia, 1884, Leidy | 1 case. |
| Varese, Italy, 1884, Parona | 1 case. |
| Catania, Sicily, 1887-8, Grassi | 1 case. |
| San Paulo, Brazil, 1893, Lutz | 1 case. |
| Pisa, Italy, 1895, Sonsino | 1 case. |
| Rio Janeiro, Brazil, 1896, Magalhaes | 1 case. |
| Centuripe, Sicily, 1900, Previtera | 2 cases. |
| Philadelphia, 1900, Packard | 1 case. |

Grassi induced a case experimentally in a man by feeding him cysticercoids, but this has no place in a series of clinical cases.

Of the above 11 cases, 3 were in males, 4 in females, and in 4 the sex is not recorded. The ages were 19 months, 20 months, 2.2, 3, 11, 12 and 40 years, the ages of three patients not being recorded. According to Ransom, the number of worms present in each individual varied from 1 to 4. No symptoms were present in any of the cases which could be referred to the parasites.

The diagnosis is made by the discovery of segments of the worm or its ova in the feces.

Any anthelmintic or merely a cathartic is usually successful in expelling the parasite. In the 11 cases santonin was used twice, male fern twice, calomel once; the worm was expelled without medicine once, and the anthelmintic used is not recorded in five cases.[9]

The following case, like the preceding ones of *H. nana*, was discovered accidentally while making routine examinations for ova of uncinaria.

*Patient.*—J. W., white, male, aged 8, has never been outside of Lee County, Ark. and has been an unusually healthy child, never having had any sickness but a few chills. The only abnormality his parents have noticed has been a ravenous appetite, slight nausea and pain in epigastrium for two weeks.

*Examination.*—His general development is good; the muscles are well developed. Weight was 54 pounds. Temperature was 98; pulse, 90. His color was good. There was no edema, but some meteorism. Bowels were regular. Spleen and liver were normal. Urine was negative.

Blood: Hb., 100 per cent.; small mononuclears, 23 per cent.; large mononuclears, 17 per cent.; polymorphonuclears, 53 per cent.; eosinophiles, 7 per cent.

Feces: Examination of the feces on July 28, 1906, showed about 10 ova of *H. diminuta* to the preparation.

*Treatment and Result.*—July 30, after a saline the night before, he was given 25 drops of oleoresin of male fern. The stools were examined by me about 4 p. m. and the parasites recovered. The father told me that one of the long fragments was expelled by the salts before the male fern was given. There were four long fragments measuring 12, 17, 21 and 25 cc. respectively, and ten shorter fragments from 2 to 7.5 c.c. Unfortunately, no head was found. I judge that there were originally three or four parasites. The specimens were identified for me by Dr. Stiles. (U. S. P. H. and M. H. S. No. 9023). The average of 10 measurements of ova gave: Outer membrane, 70x75 microns, inner membrane, 35x40. Some were slightly bile stained, others perfectly clear. No radial striations were observed. The largest proglottides measured in length 0.47 mm., breadth, 2.75 mm.; medium ones measured in length, 0.57 mm.; breadth, 1.59 mm.

On August 4, the feces were examined and no ova found. The father reported entire relief from the mild symptoms present before treatment.

9. Other authorities which may be consulted on this subject are: Von Jaksch: "Clinical Diagnosis," London, 1899; Musser: "Medical Diagnosis," Philadelphia, 1904; Boston: "Clinical Diagnosis," Philadelphia, 1904; Hensel and Well: "The Urine and Feces in Diagnosis," Philadelphia, 1905; Daniels: "Laboratory Studies in Tropical Medicine," Philadelphia, 1903; Packard: THE JOURNAL A. M. A., vol. xxxv, p. 1551.

## THE TREATMENT OF OSTEOMYELITIS WITH IODOFORM BONE PLUGGING.*

GEORGE MORRIS DORRANCE, M.D.
Assistant Instructor of Surgery in the University of Pennsylvania; Surgeon to the Out-patient Department of St. Agnes Hospital.
PHILADELPHIA.

The usual methods employed in the treatment of osteomyelitis had given such poor results in my own and in the work of others that I was led to try the iodoform plugging recommended by Moorhof. The methods of treating osteomyelitis are practically the same up to the point of filling the cavity.

The methods of filling the cavity are as follows:

1. With iodoform gauze. This has given very poor results, usually requires numerous operations and too frequently amputation of the limb.

2. Senn's method of filling the cavity with decalcified bone chips dusted with iodoform powder and allowing it to fill with blood clot. In this method the chips are frequently extruded and the cavity usually becomes infected.

3. Schede's method of filling the cavity with blood clot has had some success, but the clot very frequently becomes infected and the patient is worse than before the operation.

4. Neuber's method of tacking the skin to the bottom of the cavity is the best of the above methods, but it leaves an unsightly scar and can be applied only to the superficial bones.

5. The method of plugging with iodoform, first used by Moorhof[1] in 1903. The material used consists of finely pulverized iodoform powder 60 parts, spermaceti and oil of sesame, each, 40 parts. These ingredients are slowly heated to 100 C. and when allowed to cool they solidify and remain solid at the temperature of the body. Before using the mixture it is heated to 50 C., being stirred constantly to keep the iodoform evenly distributed. At this temperature it can be poured into the cavity, where it solidifies immediately.

The plugging does not act as a foreign body, but possesses the medicinal properties of iodoform, without causing toxic symptoms. It is gradually absorbed and replaced by granulations and in from 3 to 4 months by new bone. This point can readily be shown by the use of a skiagraph. The day following the operation there is a slight rise of pulse and temperature.

### TECHNIC.

The preparation of the cavity is the first step. The bloodless method must be employed when possible so that the cavity can be made sterile and dry. When the iodoform bone plugging is to be used, the opening in the bone need not be larger than is necessary to permit the removal of the sequestrum and the thorough cleansing of the cavity. The periosteum must be carefully

* Read before the Philadelphia County Medical Society, Oct. 10, 1906.

1. Deuts. Zeitschr. f. Chir., 1904, vol. lxvi, p. 589.

preserved, as it makes an important covering for the iodoform plug. After removing the sequestrum and all the diseased bone, the cavity is washed, dried and thoroughly swabbed with phenol. After two minutes the phenol should be wiped out and the cavity washed with alcohol, then thoroughly dried, as the moisture will prevent the iodoform plugging from penetrating every crevice in the bone, which is necessary for the success of the treatment.

The methods of controlling the hemorrhage within the cavity are: Hot air under pressure, weak solution of dioxid of hydrogen (3 to 5 per cent.), adrenalin chlorid, or packing with gauze.

The melted iodoform mixture is then poured in and when hardened the periosteum and other tissues are closed with catgut sutures, a dry gauze dressing is applied and held in place by a bandage, after which the tourniquet is removed. When there is a good periosteal covering no drainage is necessary, but when the soft parts come in contact with the plugging it is advisable to provide temporary drainage by means of strands of catgut or small strips of rubber tissue. When the tissues can not be approximated the plugging is covered with rubber tissue and dressed as above. In most cases when drainage is not employed, primary union is secured, but in a few cases there will be some oozing of serum between the stitches for a few days, after which union takes place. When drainage is employed union usually takes place immediately after the drain is removed. The treatment is not appropriate for acute cases.

Case 1.—Chronic tuberculous osteomyelitis of the tibia.

*History.*—Male, aged 27, had osteomyelitis for the past four years, during which time he was operated on sixteen times by nine surgeons, each time the cavity was enlarged and after the sixteenth operation his condition was worse than at the beginning. The methods of filling the cavity with iodoform gauze, bone chips, and blood clot were tried, but failed in each instance.

*Operation.*—On July 14, 1905, I operated on him at St. Agnes Hospital and used two ounces of iodoform plugging. The wound was closed except for a small drain of catgut. A few small pieces of the plugging came away when the drain was removed on the third day. The wound was entirely healed on the sixth day and has remained so.

Case 2.—Chronic tuberculous osteomyelitis of the tibia.

*History.*—Male, aged 7. The duration of the disease was two years. He was operated on twice by other surgeons who used iodoform gauze packing. When he came under observation there was a sinus discharging a large amount of pus.

*Operation.*—On Oct. 9, 1905, I operated on him and poured into the cavity one ounce of the iodoform plugging and closed the wound without drainage. The wound healed by first intention and there has been no return of the disease.

Case 3.—Septic osteomyelitis of the ulnar following a compound fracture.

*History.*—When the patient, a man, came under observation he had a sinus, leading down to necrosed bone, which had been discharging pus for three months.

*Operation.*—On Oct. 6, 1905, I exposed the ulnar, reflected the periosteum, removed a sequestrum, cleaned and dried the bone cavity and poured in four drams of the iodoform plugging and sutured the periosteum and soft tissues in place without drainage. The wound healed by first intention. The patient has had no return of the disease.

Case 4.—Osteomyelitis of the tibia following a compound fracture.

*History.*—When first seen the patient had two sinuses which led down to necrosed bone.

*Operation.*—On Sept. 24, 1905, I exposed the tibia, removed a sequestrum, cleansed and dried the cavity in the usual manner and poured in nine drams of the iodoform plugging, closed the wound with the exception of a small cat-gut drain, which was removed on the second day. The wound was entirely healed on the fourth day and has remained so.

Case 5.—Typhoid osteomyelitis of the sixth rib, right side, of four months' duration.

*History.*—Three months before, the patient, a man, came under observation he was operated on and the cavity was packed with iodoform gauze, since which time he has had a sinus.

*Operation.*—On Dec. 28, 1905, I exposed the rib and prepared the cavity in the usual manner but on account of oozing, the cavity was packed with gauze. After twenty-four hours the packing was removed and one ounce of the plugging was poured in and the wound closed without drainage. There has been no return of the disease.

Case 6.—Typhoid osteomyelitis of the inferior maxilla.

*History.*—Male, aged 6, three months after recovery from typhoid fever developed osteomyelitis. During the following four months he was operated on five times, and each time the cavity was packed with iodoform gauze. When he came under observation he had several scars on the face and neck, and a sinus leading down to a cavity on the inner surface of the angle of the inferior maxilla.

*Operation.*—On Aug. 15, 1906, at St. Agnes Hospital, I exposed the bone, cleansed the cavity in the usual manner, but on account of hemorrhage was obliged to pack the cavity with iodoform gauze. Thirty-six hours later the gauze was removed and the cavity was filled with the iodoform plugging. The wound was dressed with plain sterile gauze, and was entirely healed on the sixth day and has remained so.

From a study of these cases it is evident that the treatment of osteomyelitis, by the iodoform plugging, which has given uniformly good results, is far in advance of any method previously described,[2] and is the only treatment worthy of consideration.

1716 Locust Street.

## A DRESSING AFTER HARE-LIP OPERATION.

ALFRED S. TAYLOR, M.D.
NEW YORK CITY.

After a hare-lip operation the two things desired are prevention of tension on the sutures and continuous cleanliness of the wound, both of which conduce to primary union with the minimum of scar tissue and, therefore, the best cosmetic result.

Most of the dressings published have the disadvantage that the devices for relieving tension lie directly across the wound and not only cause undesirable pressure on it, but also interfere with its proper and frequent cleansing. Moreover, if the tension device is removed for a dressing, its support is lost just at the time when the child is sure to cry and struggle hardest.

The dressing described below is very simple and obviates all the disadvantages mentioned. I first used it on a patient at the Vanderbilt Clinic in 1901, and, so far as I know, it was an original idea.

The dressing consists of two narrow strips of adhesive plaster (about ⅜ inch or 1 cm. wide), starting well down on the cheeks, crossing each other over the bridge of the nose and passing well out on the forehead. Originally a little square of gauze was used to protect the bridge of the nose and the inner ends of the eyebrows from the plaster, but the later dressing is a great improvement. The plaster which would lie over the nose and eyebrow is cut on each side and folded under so that the adhesive surface is eliminated.

The illustration shows that, although the child is cry-

2. S. Hickman: Wiener klin. Wochschr., 1901, p. 537; also the Lancet, Jan. 21, 1905; also Moore: The Journal A. M. A., May 20, 1905; and Aug. 4, 1906.

ing vigorously, she can cause no pull on the upper lip. The tension device is entirely distinct from the wound dressing proper, is constant in its action and one application usually suffices for the entire period of wound healing. The nutrition of the lip is not interfered with from pressure. The wound is always accessible for observation, dressing or cleaning. A separate dressing may be applied to the wound, although my own preference has always been to leave it entirely uncovered and to

New method of dressing after hare-lip operation to secure cleanliness and to prevent tension.

have the nurse keep it clean and prevent the child from rubbing his fists into it.

If desirable, breast feeding may begin at once, although feeding with a medicine dropper causes less disturbance to the wound. Tension is so completely prevented that there is almost never any wound reaction. The eyes are partially closed, but the device allows ample space to keep them clean.

152 West Fifty-seventh Street.

## AN INTERESTING CASE OF ACRANIUS.

H. H. THOMPSON, A.M., M.D.
NOBLESVILLE, IND.

While cases of this nature are not exceedingly rare, I am induced to report this one on account of the number of days that the child lived and the reflex phenomena observed during the child's life.

*Parental History.*—The father is white, a native of Indiana, aged 28, a junkman, apparently strong and healthy. He uses alcohol and tobacco in moderation. Eight years ago he had a very aggravated attack of gonorrhea, attended with sores on the penis (another physician informs me he later displayed evidences of syphilis, for which he treated him). The mother is a native of Indiana, aged 27, strong and robust, and gives no history of any serious illness. She has previously given birth to two children, both living. One, 5 years old, is an imbecile, with an inferior paraplegia, due to poliomyelitis anterior at fifteen months. The second child is healthy and bright.

*History of Present Case.*—On the morning of September 6 I was called to attend Mrs. B. in her third confinement. The course of her pregnancy had been uneventful, save that at about the seventh month she had slipped and fallen across a water bucket. This accident caused her pain for a few hours, but caused no manifestation of serious injury. On arriving at the house I found that the head had been born, and soon the delivery of the child and placenta was normally completed.

*Description of Child.*—The child, a boy, was perfectly formed in body, weighing 7½ pounds. The spine was perfectly developed, as were the neck and lower part of the face. The top of the head, from the supraorbital ridge following backward, from about one to two centimeters (.4 to .8 in.) above the hair line was wanting. The edges of the bones were inverted, and the center of the space, about 5 by 7 centimeters (2 by 3 inches) was occupied by a highly vascularized membrane. The eyes, large and bulging, were placed at an angle with the plane of the face, giving the typical "frog-head" appearance. The baby breathed immediately and its heart action was normal, but it did not cry. However, when being washed and dressed it kicked lustily, and gave a peculiar sort of moan. All of this ceased when it was laid down, but as soon as it was touched or handled it would move and moan vigorously. We tried putting it to the breast at the usual time, for the mother had plenty of milk, but it could not nurse. This was tried several times, but unsuccessfully. Then we tried feeding mother's milk with a spoon, but could only get down one or two spoonfuls out of many. This I attribute to the lack of ability to coördinate the muscles of the cheeks and throat. We managed, however, to keep it alive for eight days.

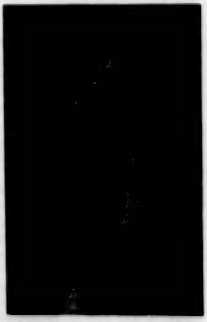
Its good respiration and heart action, and movements of hands and feet show that the medulla must have been present, even though movements occurred only after stimulation and were apparently purely reflex. The absence of a well-defined cry, and the inability to nurse show the want of any centers of coördination. The accident during pregnancy could have no bearing on the etiology of the case, as the malformation must have dated to the first month of fetal life, when the brain segments were in process of formation. May the luetic taint of the father be held responsible as a factor in the etiology?

I can find no case in the literature exactly similar to this, as these cases are usually accompanied by some other malformation, such as spina bifida, cleft palate, harelip, etc. Neither can I find any record of such a child living so long as eight days.

## AINHUM.

JAMES A. ROLLS, M.D.
WATROUS, N. M.

In June of the present year I treated the following case of ainhum which I think sufficiently unusual to be worthy of record:



*Patient.*—J. L., colored, aged 38, day laborer, father and mother both Africans, came complaining of a painful toe.

*Examination.*—Examination revealed a thickened ring of epithelium which encircled the base of the fifth toe of the left foot. Removal of the superficial epithelial débris showed that this ring had decidedly encroached on the tissues of the toe, the distal part of which was somewhat enlarged and globular, while the base looked as if a ligature were very tightly applied. After a day's rest the pain entirely disappeared, showing, as is usual in these cases, that it was due entirely to traumatism, to which the unwieldy toe easily lends itself.

*Operation.*—The constriction occurred at the proximal interphalangeal articulation, and amputation at this point resulted in the patient's early return to work.

The patient thinks "there has been something the matter" with the toe for about eight years, but knows of no similar condition in any member of the family.

# New and Non-Official Remedies

THE FOLLOWING ARTICLES HAVE BEEN TENTATIVELY ACCEPTED BY THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR INCLUSION IN THE PROPOSED ANNUAL, "NEW AND NON-OFFICIAL REMEDIES." THEIR ACCEPTANCE HAS BEEN BASED LARGELY ON EVIDENCE SUPPLIED BY THE MANUFACTURER OR HIS AGENT, BUT TO SOME EXTENT ON INVESTIGATION MADE BY OR UNDER THE DIRECTION OF THE COUNCIL. CRITICISMS AND CORRECTIONS ARE ASKED FOR TO AID IN THE REVISION OF THE MATTER BEFORE FINAL ACCEPTANCE AND PUBLICATION IN BOOK FORM.

THE COUNCIL DESIRES PHYSICIANS TO UNDERSTAND THAT THE ACCEPTANCE OF AN ARTICLE DOES NOT NECESSARILY MEAN A RECOMMENDATION, BUT THAT SO FAR AS KNOWN IT COMPLIES WITH THE RULES ADOPTED BY THE COUNCIL.

W. A. PUCKNER, SECRETARY.

(*Continued from page 2013.*)

## THEOCIN.

A name applied to synthetic theophyllin (see Theophyllin).

Manufactured by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany (Continental Color & Chemical Co., New York). German patent No.138,444. U. S. patent applied for. U. S. trademark.

## THEOPHYLLIN.

1,3-DIMETHYL-XANTHINE.

Theophyllin, $N(CH_3).CH:C.NH$ / $CO.N(CH_3)—C:N$ \ $CO$ =

$C_7H_8O_2N_4$, is an organic base isomeric with theobromine; it is found in small amounts in tea and is also made synthetically.

It is a white, odorless, crystalline powder, having a bitter taste, and melting at 268° C. (514.4° F.). It is soluble in 180 parts of water at ordinary temperature and in 85 parts at 37° C. (98.6° F.), sparingly soluble in alcohol, insoluble in ether. It forms easily soluble compounds with ammonium and potassium, a less soluble salt with sodium, but a freely soluble double salt with sodium acetate (Acet-theocin-sodium).

It responds to the murexid test. Addition of tannin to a solution of theophyllin produces a precipitate soluble in an excess of the reagent. It is soluble in an excess of sodium hydroxide solution (difference from caffeine). On addition to solution of theophyllin in sodium hydroxide of a solution of sulphanilic acid 0.5, hydrochloric acid 5.0, water 100, to which a few drops of a ¼ per cent. solution of sodium nitrite have been added (diazo test), a red coloration is produced (distinction from caffeine and theobromine).

*Actions and Uses.*—Theophyllin is a powerful diuretic, claimed to surpass all other remedies of this kind, increasing not only the amount of liquid, but the solids in the urine as well, the secretion of urine being sometimes very copious. The diuretic effect, however, is not prolonged and its administration is, therefore, advantageously followed by one of the theobromine derivatives having a weaker, but more persistent, action. It occasionally produces gastric disturbances and renal irritation has also been reported. It is claimed that these may be obviated by the use of acettheocin-sodium (which see) instead.

It is recommended in cardiac affections, nephritis, dropsy, etc.

*Dosage.*—0.2 to 0.35 Gm. (3 to 5 grains) in warm tea.

## THERMODIN.

PHENACETIN-URETHANE. ACETYLPARETHOXY-PHENYL-URETHANE.

Thermodin, $C_6H_3(OC_2H_5).(N(COOC_2H_5)(CH_3CO)) = C_{15}H_{19}O_4N$, is a compound of acetphenetidin (phenacetin) and ethyl carbamate (urethane).

It is prepared by the action of ethyl chlorocarbonate on parphenetidin by which parethoxyphenyl-urethane is formed which is converted into the acetyl compound by heating with acetic anhydride.

It forms colorless, odorless and tasteless crystals, melting at 86° to 88° C. (186.8° to 190.4° F.). It is practically insoluble in cold water (1:2000); soluble in 450 parts of boiling water.

If 0.5 Gm. of thermodin, 5 Cc. sulphuric acid, and 5 Cc. of alcohol are mixed and warmed gently, the odor of ethyl acetate is developed. A solution of 0.5 Gm. of thermodin in 5 Cc. of sulphuric acid on the addition of 0.2 Gm. of sucrose, assumes a red color, becoming more intense on standing (distinction from neurodin). If 0.5 Gm. of thermodin is boiled with 3 Cc. of hydrochloric acid during one minute, then mixed with 5 Cc. phenol solution 1:20, and a solution of chlorinated lime added, an onion red color appears which changes to blue on supersaturation with ammonium hydroxide. 0.1 Gm. of thermodin dissolved in 1 Cc. of sulphuric acid should form an almost colorless solution. 0.1 Gm. of thermodin should, on ignition, not leave a weighable residue.

*Actions and Uses.*—Thermodin is an analgesic, antipyretic and antiseptic.

It is recommended as a mild and reliable antipyretic in typhoid fever, pneumonia, influenza, tuberculosis and febrile conditions in general, and is said to be free from unpleasant by-effects.

*Dosage.*—0.3 to 0.6 Gm. (5 to 10 grains) as an antipyretic; 1 to 1.3 Gm. (15 to 20 grains) as an analgesic.

Manufactured by E. Merck, Darmstadt (Merck & Co., New York). U. S. trademark

## THIOCOL.

POTASSIUM GUAIACOL-SULPHONATE.

Thiocol, $C_6H_3(OH)(OCH_3)(KSO_3)1:2:6 = C_7H_7O_5KS$, is the potassium salt of ortho-guaiacol sulphonic acid.

It is prepared by sulphonating guaiacol at a temperature not exceeding 70° to 80° C. (158° to 176° F.) with concentrated sulphuric acid, converting the guaiacol sulphonic acid produced into the barium salt, and this by double decomposition with potassium sulphate into the potassium guaiacolsulphonate.

It is a colorless, crystalline powder, neutral or faintly alkaline, odorless, and having a faint bitter, followed by a sweet taste. It is readily soluble in water, slightly soluble in ordinary alcohol, but insoluble in absolute alcohol and in ether or oils.

Its aqueous solution is not precipitated by barium chloride; ferric chloride produces an intense violet blue color, which disappears on the addition of ammonia, or of concentrated solution of alkali chlorides or sulphates.

*Actions and Uses.*—Thiocol is said to be non-irritating to the mucous membranes of the digestive tract, readily absorbed and is claimed to promote appetite and improve nutrition.

It is recommended in pulmonary tuberculosis, acute and chronic bronchitis, pneumonia, whooping cough, emphysema of the lungs, etc., as a means of relieving expectoration, diminishing night sweats and improving nutrition.

*Dosage.*—0.3 to 1.3 Gm. (5 to 20 grains), in solution with orange syrup or in tablets.

Manufactured by F. Hoffmann-LaRoche & Cie, Basel, Switzerland (The Hoffmann-LaRoche Chemical Works, New York). U. S. patent No. 650,218. U. S. trademark No. 32,562.

## TONOLS.

Tonol is a name applied by E. Schering to identify the glycerophosphates of his manufacture.

The following are mentioned: Calcium (or lime) tonol (calcium glycerophosphate, Schering), Iron tonol (iron glycerophosphate, Schering), Lithium tonol (lithium glycerophosphate, Schering), Magnesium tonol (magnesium glycerophosphate, Schering), Manganese tonol (manganese glycerophosphate, Schering), Potassium tonol (potassium glycerophosphate, Schering), Quinine tonol (quinine glycerophosphate, Schering), Strychnine tonol (strychnine glycerophosphate, Schering).

Certain combinations of these tonols are supplied under the names "dnotonol," "quartonol" and "sextonol," which see.

*Action, Uses and Dosage.*—These are described under glycerophosphates (which see).

Manufactured by Chemische Fabrik auf Actien, vorm. E. Schering, Berlin (Schering & Glatz, New York). U. S. trademark No. 45,418.

(*To be continued.*)

**Naming of Carbon Compounds.**—Sulphones are compounds containing the group $(SO_2)''$, thus diethyl-sulphone is $(C_2H_5)_2SO_2$. Sulphonic acids: Compounds containing the group $(SO_2OH)'$ are derived from sulphuric acid, $OH.SO_2.OH$, by abstraction of $(OH)'$, thus phenol-sulphonic acid is $C_6H_4(OH)(SO_2OH)$.—*Pharm. Rec.*, September, 1906.

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

103 Dearborn Avenue .... Chicago, Ill.

Cable Address ... "Medic, Chicago"

Subscription price.....Five dollars per annum in advance

[For other information see second page following reading matter.]

SATURDAY, DECEMBER 22, 1906.

## THE VENEREAL PERIL.

The papers and discussions of the symposium on venereal disease and on the duty of the medical profession to womankind, given at Boston last June and published in this and previous issues of THE JOURNAL,[1] deal with a subject that is seldom thus publicly discussed, but which is none the less one on which the enlightened opinion of the medical profession should be in evidence. In the ever-needed reforms here indicated the medical profession must necessarily be the leading factor. That large portion of mankind which is not influenced by purely moral considerations or that needs an unmoral stimulus to self-control, can be reached to a large extent by medical instruction, and the latter certainly will be a valuable adjunct to the higher arguments with the weak and the weaker wilful transgressors.

The spread of venereal diseases is largely through ignorance, and there is doubt whether physicians have done all that could have been done in this matter. There have been too many, even in our profession, who have taken the so-called "man of the world" view of the question, and their counsel has been in some cases distinctly bad. Since Noeggerath, however, published his paper on the dangers of gonorrheal infection there has gradually developed a very marked change in medical opinion in regard to that disease. While his ideas were perhaps considered as extreme, they contained so much truth that there are few, if any, who will nowadays ignore them. We have also widened our views as to the dangers of syphilis, though it may be that the old ostrich policy of wilful blindness is still in evidence in the attempts to belittle its agency in the causation of such disorders as paresis and tabes, and we can not say yet that we have an exhaustive knowledge of its capacities for evil to mankind.

Although the medical profession is, or certainly ought to be, thoroughly alive to the physical evils of immorality, the general public is still largely in a state of ignorance. If, as claimed by some authorities, 75 per cent. of the special diseases of women that call for medical or operative relief are due to gonorrheal infection, and if this infection exists or has existed (and we can often not tell when it ceases to exist) in 70 or 80 per cent. of the young men of our large cities, as some authorities declare, the condition of affairs is certainly a sufficiently formidable one. Although the percentages are doubtless overestimated, the fact that they seem to be justified to some observers is bad enough. How, except through ignorance, rational men will subject themselves to the risk of incurring diseases that involve such consequences is hard to see. The difficulties of publicity are obvious, but if the evil is to be checked it will have to be largely through popular education by parents, teachers, clergymen, and especially by physicians. The general unanimity of this opinion among medical men who have given due thought to the subject is very evident in the papers and discussions of the symposiums, and the propositions as to how this is to be brought about are well worthy of consideration. The tone of the speakers is gratifying and encouraging, and signifies a determination to spare no effort in attempting to solve the problem.

How far all the legal measures that are proposed, and that are said to be in actual existence to a certain extent in some parts of the country, will be effective will have to be decided by experience, but they cannot be even enacted, much less adequately enforced, without an educated public sentiment behind them. Notification, without needless publicity, should certainly be a legal requirement, as it is in other far less dangerous infections; the successful enforcement of this regulation would depend on physicians, and their attitude as regards the law should not be in doubt.

Within the past few years we have seen the public aroused in regard to the perils of tuberculosis; the movement is still in progress and intolerant zeal may even need to be checked if the popular interest in the matter increases as it seems likely to do. The evil of venereal disease is just as great. It may not cause so much direct mortality but its evil effects on the welfare and happiness of society are much greater. With the present drift of modern civilization these are accentuated; the increasing migration into cities, the stress of life, making early marriages less frequent, the tendency in our mixed population to neglect the higher moral considerations and to undervalue religious instruction, all help to increase the evil.

It is the duty of the medical profession to take the lead in this movement for the enlightenment of the public regarding the ravages of these two preventable diseases. In fact, here and there in different parts of the country county societies are already at work, as we have noticed in our news columns on several occasions. The work done by the societies referred to is usually in the form of distributing leaflets and in limited public meetings. We have before us a leaflet issued by the Scott County (Iowa) Medical Society entitled, "Circular of Warning for the Young and the Uninformed," which, as we understand it, is circulated freely. There is but one objection to this circular and that is that it is intended for both men and women. It would be better if the

1. Oct 20 and 27 and Dec. 8 and 22, 1906.

German plan to which we referred some time ago were adopted and leaflets prepared separately for circulation among the two sexes. To repeat, it is a question of education, and everything that will enlighten the public in regard to the matter is worthy of encouragement.

## SHAW ON THE OPSONIC INDEX.

Bernard Shaw has written a play entitled "The Doctor's Dilemma," in which we learn that many eminent physicians and surgeons have but little to do.[1]

The plot revolves about a pathologist who has discovered a vaccine for tuberculosis which, if used with proper regard to the opsonic index, will cure the disease. This mode of treatment is still in the experimental stage, and it has thus far been possible to prepare only enough vaccine for ten cases. These have been carefully selected and are all in St. Ann's Hospital awaiting its application. There is a beautiful lady who would devote her fortune and her years to smoothing the rough path of some man of genius. She haply attains this amiable ambition in being the wife of Dubedat, an artist. (She believes she is his wife; but, as the artist is a complicated rascal, she and the audience are left in doubt.) This very altruistic lady adores Dubedat as a man and worships him as an artist; but he is dying of consumption. Will the pathologist save him? At first he refuses, but presently complies, being impressed by her appeal that, although Dubedat is immoral as a man, his artistic achievements are delighting and benefiting (!) the world. The pathologist then comes to wonder whether the life of Dubedat (a combination of artist and blackguard—a sort of up-to-date Benvenuto Cellini) is, after all, worth saving; whether it would not be kinder to her that he should die before her illusions are destroyed. While the man of science hesitates there comes to him an old fellow-practitioner—a good man, but quite a nonentity and in no danger whatever of setting the world on fire—who has developed phthisis. The problem is further complicated when the pathologist finds that he has fallen in love with the lady, and that somewhere among the subliminal strata of his consciousness he has been nurturing the hope of marrying her in the event of the artist's death. What is he to do? He solves the dilemma by treating and curing his fellow-practitioner and by handing Dubedat over to a fashionable physician who has the reputation of bungling badly in his practice. Dubedat dies in a bath chair, after making an artistic profession of faith and inducing his wife to promise to marry again speedily, for the reason that a sorrowing widow has always shocked his esthetic sense. Immediately on his death the pathologist asks the widow to marry him, confessing that when he put the artist in the hands of the fashionable bungler it was in the full expectation of an early demise, and he calls himself a murderer. The lady is shocked, especially that a gentleman as old as the pathologist should have dreamed that she would marry him, and announces that she has already remarried. Curtain.

The informed physician will surely require no extended consideration of this sketch. He will find it diverting in ways not intended by the playwright. But the portrait of the pathologist will astonish those who have studied the work of Wright, whose achievements bid fair to rank with those of Jenner and Reed; especially will it astonish those fortunate ones who heard his recent lectures on the opsonins in various institutions in this country.

On the whole, Shaw does not appear to be successful as a critic of the men and methods of modern medicine. Abuses have from time to time existed in our calling, as in all others, and men like Hogarth, Molière, Dickens and Daudet have revealed them sanely and comprehendingly and with salutary results. No doubt there are abuses to-day which might fairly be set forth, but Bernard Shaw—vegetarian, anti-vaccinationist, antivivisectionist, antimoralist, extremist and paradoxist—is hardly the man for the job.

1. See editorial in British Medical Journal on "Opsonins on the Stage," Nov. 24, 1906.

## THE RELATION BETWEEN SUPPURATIVE SPHENOIDAL SINUSITIS AND INTRACRANIAL AND OCULAR INFLAMMATIONS.

Careful anatomic investigation would often make clear the mode of origin of many an obscure infection. In the presence of inflammatory intracranial disease attention is quite commonly given to the ear as the possible primary focus, and, while it is realized that infection of the cranial cavity may take place by way of the nose, the frequency of this mode of invasion is perhaps not generally appreciated. As a matter of fact, collections of pus in the various accessory nasal sinuses are not uncommon, especially in association with inflammatory affections of the cranial cavity. Of the sinuses the maxillary is the one most frequently involved, the sphenoidal being next in frequency. Attention is called to the importance of this subject by Dr. St. Clair Thomson,[1] who reports a case of acute suppurative basic meningitis and one of thrombophlebitis of the cavernous sinus secondary to purulent inflammation of the sphenoidal sinus, and terminating fatally. In addition, he has been able to collect from the literature 40 cases of like character. The lesions found after death comprise meningitis alone in 17 cases, thrombosis of the cavernous sinus in 4 cases, thrombosis and meningitis in 13 cases, meningeal septicemia in 2 cases, intracranial abscess, encysted abscess of the dura mater, hemorrhagic encephalitis, phlebitis of the cavernous sinus, intracranial hemorrhage and suppurative encephalitis, each 1 case.

The symptoms of suppuration of the sphenoidal sinus

1. Brit. Med. Jour., Sept. 29, 1906, p. 768.

are often vague and in large part the same as those due to the presence of pus in any of the other accessory cavities of the nose. The most common is a purulent catarrh, frequently postnasal. There also may be loss of the sense of smell or subjective sensation of a disagreeable odor. Pain or neuralgia may be absent, intermittent or severe. Occasionally it resembles migraine. It may be frontal, occipital or temporal, or even may be referred to the opposite side of the head. Sometimes it is referred to the ear, but its most characteristic situation is deep behind the eyes. Fever is absent in chronic cases, but is generally present in acute or complicated cases. The general health is disturbed in greater or lesser degree as a result of absorption or from the penetration of pus into the respiratory or digestive tract.

The bacteriologic findings have been varied. Pure cultures of streptococci have been obtained from the sphenoidal sinus and from the thrombus in the cavernous sinus or the pus at the base of the brain; pure cultures of staphylococci from the sinus and from the blood; pure cultures of pneumococci from the pus of the sphenoidal sinus and the meninges; the *Diplococcus lanceolatus* not only from the sinus and the meninges, but also from the bony wall of the sinus itself, and a streptothrix from the meningeal pus. Micrococci have been seen in fluid removed by lumbar puncture, grouped in pairs, and in diplococci, or in chains in the pus from the sphenoidal sinus.

Extension of disease from the sphenoidal sinus to the cranial cavity may take place by way of diseased bone or the veins or the lymphatics. Among other conditions to which suppuration of the sphenoidal sinus may give rise are relapsing cystitis, choroiditis, glaucoma, exudation into the sheath of the optic nerve, retrobulbar optic neuritis.

When the diagnosis of pus in the sphenoidal sinus can be made, the orifice of the sinus should be enlarged and the cavity drained. The Roentgen rays may be useful both in diagnosis and in treatment.

## REGISTRATION OF VITAL STATISTICS.

Notwithstanding that correct registration of vital statistics is recognized as necessary in all civilized countries, it is remarkable that the laws of most of our states still remain so imperfect in principle or so faulty in execution that they can not be included in the registration area recognized by the United States census authorities. Eleven states were included in 1900 and five more were added in 1906, making the total 16, including the District of Columbia. The list of states not yet admitted includes some of the most important in the union and comprises over 60 per cent. of the population of the whole country. If the population of cities in non-registration states which have effective systems of registration be deducted there still remains 51.5 per cent. of the population of the country not properly provided with a system of registration of vital statistics. The Census Bureau has issued a pamphlet, which will be sent free to any physician requesting a copy, describing the unsatisfactory methods formerly in use in Pennsylvania with the reasons for their failure and giving the present law on the strength of which the state has been accepted as included in the registration area. Of the laws providing for registration in Pennsylvania, the original one, enacted in 1851, was in many respects excellent and superior to its successors, but failed chiefly for two reasons: It attempted to secure returns indirectly through the county authorities, instead of directly to a central bureau through responsible deputies, and it did not require death certificates as a necessary preliminary to burial or removal of the dead body. County registration is foredoomed to failure and compulsory death certificates are essential to secure the registration of all deaths. The present law provides for deputies of the central bureau in every village who are responsible directly to the central body. Dr. Cressy L. Wilbur, chief statistician, and who has charge of the Division of Vital Statistics at Washington, is trying to secure the aid of medical men in bringing about a uniform system of registration of vital statistics, and should have the coöperation of the medical profession in this work.

## PHYSICIANS AND THE DAILY PRESS.

The healthy distaste exhibited by all honorable physicians toward the use of the daily press by practitioners as a means of self-advertising, has led to a somewhat anomalous condition. The physician, who should be a leader and a teacher in matters relating to the physical welfare of the public, has, because of this sensitiveness with regard to the use of the press, hidden his light under a bushel and left the public to grope in the dark; small wonder then if the people follow will-o'-the-wisps in the form of advertising quacks. An exchange[1] urges physicians to do their plain duty; for the people, it says, "are eager to be taught; they have always heard the word gladly. That following of false prophets which so excites our scorn is in a measure our own sin, for we have held our knowledge too much like oath-bound mystery, and have not heeded the children's cry for bread." There are two objections that may be raised to this method of enlightening the public. One is the opportunity such a course would offer to pseudo-scientific medical men to exploit individual methods and theories, the other is the possibility of the self-advertising physician rushing into print without adequate regard to time or season. Both of these objections, however, can be, and in some cases have been, easily met by the appointment of press committees in the various units of medical organization. There is no doubt, as the writer previously quoted says, that "many of the chief mysteries of practical medicine are now simplified down to the average layman's understanding" and failure to impart this is "to default on our lawful contribution to the general good." Particularly is it true that along the line of public hygiene and experimental medicine "the rate of future progress depends very largely on our activity

1. "The Faculty and the Newspapers," Maryland Med. Jour., November, 1906, p. 448.

in propagating medical knowledge among the people." With the increased requirements for admission to schools of medicine the physician of to-day should be eminently fitted to write on things medical—the ability to express in clear and simple English the basal facts of medicine being a presupposed qualification.

### MUSCULAR RHEUMATISM AND ENDOCARDITIS.

The increase in our knowledge of muscular rheumatism has not been coincident with our increase in knowledge of the articular form. We are still quite in the dark as to the etiology of the disease, and we are still, no doubt, classifying under the head of muscular rheumatism a variety of different conditions. There are many facts in the history of the disease, or, at any rate, of some varieties, which suggest an infection, a view expressed by Leube a good many years ago. The occurrence at certain seasons, the not infrequent presence of prodromal symptoms, the fever which at times occurs, and the wandering involvement of many muscles, all speak for this interpretation. The occurrence of lesions in the internal organs, such as endocarditis, has not been emphasized, but there is reason to believe that these complications are not so very infrequent. Bechtold[1] has recently studied the statistics of the Würzburg Hospital, and has found a large number of cases of muscular rheumatism in which there were signs of heart disturbance: impure tones, murmurs, increased heart dulness, and accentuation of the second pulmonic sound. Out of these about 1 per cent. showed evidence of endocarditis, definitely to be referred to muscular rheumatism. Evidently this condition is more serious than we are wont to regard it so far as its effect on the circulatory system is concerned.

### PARENTAL CO-OPERATION IN THE MEDICAL INSPECTION OF SCHOOLS.

That the parents are primarily responsible for the health of the child is generally acknowledged, but hitherto they have been made to feel this responsibility only in relation to contagious diseases. The need of co-operation on the part of the parents for the success of the medical inspection of schools is well brought out by a recent writer.[2] The need of care of the child's health, directly for the child's sake and indirectly for the sake of society, is now being insisted on by those who are inaugurating school inspection. The recommendations of medical inspectors are often disregarded by the parents, not because they do not care for the health of the child, but because they have relatively little faith in the school physician and are ignorant of the significance of the defects and diseases to which their attention has been called. It is evident that this phase of school inspection can have but indifferent success unless the parent is instructed and interested in the nature and objects of medical inspection. The value of parents' associations in this, as well as in other respects, is illustrated by the experience of the parent-teacher associations in Boston, which were established by the conference committee on moral education. The first was organized in May, 1905, the second last November, and the other two later in the year. The aim is to bring the home and the school together; to instruct the parents concerning the care of their children, and to promote the social interests of the neighborhood. The second object has been carried out by lectures, five of which were on the physical development of the child and two on the moral welfare. These lectures have proved an efficient agency for giving medical instruction to the parents. That they have helped the medical inspector in the performance of his duties, by making inspection a live issue in the community, is proved by the personal testimony of Dr. Fairbanks, who says that parents' associations have been of material assistance to medical inspection in the schools. In addition to these lectures, demonstrations have been given showing how to care for sick children. No doubt local conditions in some communities require modifications of the plan adopted in Boston, but the general idea of interesting parents in the protection of the health of their children at school and at home is worthy of extended adoption.

1. Münch. med. Wochft., 1906, vol. liii, p. 2189.
2. Fanny T. Andrews, Charities and the Commons, Nov. 24, 1906.

## Medical News

### CALIFORNIA.

**In Peril of Fire.**—Dr. Fitch C. E. Mattison, Pasadena, was severely burned about the head in extinguishing a fire which broke out in the room adjoining the operating room of the Pasadena Hospital.

**Surplus Relief Funds.**—It is stated in the daily press that one-half of the $4,000,000 still said to be on hand for the relief of San Francisco refugees may be used in the establishment of a general hospital in San Francisco.

**Do Not Seek Publicity.**—At the regular monthly meeting of the Stanislaus Medical Society held at Modesto, November 13, the members of the society agreed to abide by the section of the Principles of Medical Ethics of the American Medical Association referring to publication of reports of medical cases by the lay press.

**Physicians Must Register.**—The failure of physicians in Los Angeles to comply with the ordinance requiring them to register at the city clerk's office has resulted in the sending out of 92 notifications to delinquents that they must call at the health office within ten days and register on penalty of complaints being entered against them in the police court.

**Personal.**—Dr. Walter Lindley has been elected mayor of Los Angeles.——Dr. Edwin Z. Hennessey has been reappointed one of the directors of the Napa State Hospital and the board has elected him as its president.——Dr. Charles G. Levison, president of the San Francisco Policlinic, was given a farewell dinner November 27, on the eve of his departure for Europe.——Dr. William D. Babcock has been elected dean of the Medical College of the University of Southern California, Los Angeles.——Dr. Charles E. Derranco has been appointed a member of the board of health of Bishop, vice Dr. J. S. McQueen.——Dr. Adolph J. Kahn, Napa, fell from his bicycle November 24, and sustained severe cuts of the head.——Dr. Owen R. Stafford, Los Angeles, has been appointed health officer of Los Angeles County.

**Hospital Notes.**—The Mammoth Copper Company has commenced work on a hospital to cost $10,000.——St. Caroline's Hospital Association has been incorporated at Redding with a capital stock of $15,000, to erect a two-story brick hospital in that city. Dr. Ferdinand Stabel and Dr. J. Thornton Rohm, Redding, are on the board of directors of the company.——A hospital for epileptics under state or local management is being planned for Los Angeles.——It is reported that the Southern Pacific Railroad has purchased a site in San Francisco for $200,000, on which it will erect a hospital to cost about $250,000.——A permit has been granted by the Oakland board of works for the erection of a three-story frame struc-

ture for the Oakland Central Hospital, to cost $32,000.——The Pacific Coast Hospital Association has been incorporated in Oakland with a capital stock of $25,000.

## COLORADO.

**Personal.**—Dr. W. R. Kidwell, Pueblo, was thrown from his bicycle, November 30, fracturing a rib and sustaining injuries that confined him to his bed for several days.——Dr. John W. Cline, Florence, has been appointed local surgeon for the Denver & Rio Grande Railroad, vice Dr. James W. Rambo, resigned.

**Smallpox.**—An epidemic of smallpox is reported to be raging in Las Animas County and the State Board of Health has taken charge of the situation in response to an urgent appeal from the county physicians and the county commissioner.——There are reported to be 26 cases of smallpox in the Trinidad pesthouse and many cases outside. The Board of County Commissioners of the county has ordered that the county physicians shall cause to be vaccinated every person in the county who has not been vaccinated.

## GEORGIA.

**Will Not Sell Cocain.**—The druggists of Brewton have voluntarily pledged themselves not to sell cocain to anyone except on the presentation of prescription.

**Physician Shot.**—Dr. William Cawhern, Atlanta, was shot and seriously wounded by Albert R. Thomas, an employé of the Seaboard Air Line, December 4. Dr. Cawhern's assailant has been held by the grand jury on the charge of assault with attempt to commit murder.

**Personal.**—Dr. William D. Travis, Covington, is reported to be critically ill.—At the meeting of the United States District Examining Board at Macon, Dr. Robert B. Barron was elected president and Dr. Obadiah C. Gibson, secretary.——Dr. Rufus D. Dorsey has been elected to fill the vacancy on the medical board of Grady Hospital, Atlanta, caused by the death of Dr. Charles D. Hurt.

## ILLINOIS.

**Correction.**—Dr. Nicholas H. Kern, Thawville, requests THE JOURNAL to state that the announcement of his marriage in THE JOURNAL, December 15, was an error.

**Communicable Diseases.**—The New Trier High School at Winnetka has been closed on account of a threatened epidemic of scarlet fever.——On account of the prevalence of smallpox in Galesburg, no child is allowed to attend school unless it has been properly vaccinated.——The scarlet fever situation in Tuscola is said to be improving.

**Southern Illinois Association Meeting.**—The Southern Illinois Medical Association, in its meeting at Shawneetown, elected the following officers: President, Dr. Charles C. Grizzell, De Soto; vice-presidents, Drs. James W. Hamilton, Mount Vernon, and George S. Rainey, Salem; secretary, Dr. Edgar E. Fyke, Centralia, and treasurer, Dr. Alexis T. Telford, Olney. The meeting next year will be held in McLeansboro.

### Chicago.

**Benefits for Hospitals.**—As the result of the lecture by Burton Holmes December 3, about $9,000 was raised for the Provident Hospital.——The total receipts of the "Streets of Paris" are reported to have amounted to more than $70,000, of which about $40,000 is expected to be available for the Passavant Hospital, the beneficiary.

**Personal.**—Dr. Charles W. Behm, chief of the disinfection bureau of the department of health, who has been seriously ill with diphtheria, is reported to be convalescent.——Dr. Robert H. Babcock has been appointed a member of the consulting staff of the County Hospital, vice Dr. Fernand Henrotin, deceased, and Dr. George Paull Marquis a member of the staff, vice Dr. Horace M. Starkey, retired. Dr. Joseph A. Capps succeeds Dr. Babcock and Dr. Joseph C. Beck will take the place made vacant by the promotion of Dr. Starkey.——Dr. Henry B. Favill has been elected president of the Municipal Voters' League.

## INDIANA.

**Hospital Incorporated.**—The Goshen Hospital and Training School has been incorporated. The medical and surgical services will be furnished by the Elkhart Medical Society.

**Rosenthal Estate.**—By the will of the late Dr. Isaac M. Rosenthal, Fort Wayne, an estate of $75,000 has been left which is bequeathed to his children in equal parts, excepting that his medical library and surgical instruments are devised to his son, Dr. Maurice I. Rosenthal.

**Irregular Practitioners Fined.**—The "Rev." Dr. Charles H. McLain, alias "Schlatter," a healer, was fined $25 and costs at Bloomington, Ind., for violation of the medical practice law. The fine was paid and the healer left for Bedford.——We are informed that Dr. William H. Gray was fined $25 at Michigan City, November 27, for practice of medicine without a license. He is said to have admitted that he had no license.

**Infectious Diseases.**—The State Board of Health has received word that scarlet fever is prevalent at Straughan's Station, Henry County.——The German school, Logansport, has been closed on account of the prevalence of diphtheria. Ten students of the institution are said to be ill with the disease.——South Bend is in fear of a smallpox epidemic. It is estimated that at least 5,000 individuals have been vaccinated, the majority being children and employés of large factories.——Diphtheria is reported by the State Board of Health to be prevalent throughout the state.——During November more than 200 cases of measles have been reported in Richmond, with one death.——Fear of smallpox has led the county health board to close the public schools of Miami.

## MARYLAND.

**State Hospital Report.**—The report of the Springfield Hospital for the Insane shows that it has now 738 patients.

**Smallpox.**—Five cases of smallpox are reported near Utica and many persons were exposed before the nature of the disease became known. The public schools have been closed.

**Site for State Sanatorium.**—On the invitation of Dr. A. Barr Snively, Waynesboro, Pa., the governor, a party of physicians, architects and others inspected a number of sites on South Mountain, Washington County, December 7, with a view to selecting a site for a state sanatorium for tuberculosis.

**Staff Changes.**—Dr. George Wells has been re-elected chief of the medical staff of the Annapolis Emergency Hospital and the following consulting surgeons have been appointed: Drs. Thomas S. Cullen, Joseph C. Bloodgood, James Bordley, Jr., St. Clair Spruill, Harvey G. Cushing, T. A. Ashby and B. B. Browne, Jr.

**Medical Association Meets.**—At the meeting of the Talbot Medical Association, held at Easton, December 5, Dr. Edward R. Trippe, Easton, was elected president; Dr. Robert A. Dodson, St. Michaels, vice-president; Dr. Alexander B. Hayward, Easton, secretary and treasurer, and Dr. James A. Stevens, Oxford, delegate to the Medical and Chirurgical Faculty of Maryland.

### Baltimore.

**Vaudeville for Hospital.**—The vaudeville presented recently at the Maryland Theater, realized $1,500 for the Hospital for Crippled and Deformed Children.

**Reception for Osler.**—A reception in honor of Dr. and Mrs. William Osler was given at the residence of Dr. and Mrs. Harvey Cushing, December 10.

**Frenkel in Baltimore.**—Dr. H. S. Frenkel of Heiden, Switzerland, delivered an address in the Section on Neurology and Psychiatry of the Medical and Chirurgical Faculty of Maryland, December 5, on "Treatment of Locomotor Ataxia by Systematic Exercise." On the previous evening, Professor Frenkel was entertained at the University Club.

**New Method of Milk Analysis.**—A new method for the analysis of milk, devised by Dr. Thomas R. Boggs, is use in the Johns Hopkins Hospital, is announced. It is claimed that by this method the proteids are estimated to within 0.3 per cent. "Diluted milk is precipitated with phosphotungstic acid in hydrochloric acid and the volume of the precipitate is read off in an ordinary Esbach albuminometer."

**New Organism Discovered.**—Dr. Samuel T. Darling, formerly pathologist at the Baltimore City Hospital, but more recently connected with the Board of Health Laboratory in Panama, passed through Baltimore December 9, on his way to Europe. He claims to have discovered a new pathogenic organism in three persons who are suffering from emaciation, enlargement of the spleen, etc. He has named the organism "*Histoplasma capsulata*," but no name has as yet been given to the disease to which it is supposed to give rise.

**Personal.**—Dr. John R. Carr, now in Europe, has been elected a member of the staff of the Union Protestant Infirmary.——Dr. William H. Welch has been re-elected a trustee of the Carnegie Institution.——Dr. Robert F. Miller has been given six months leave of absence from the Johns Hopkins Hospital and will study abroad. Dr. J. W. Churchman takes his place; Dr. W. S. Baer, formerly assistant, has been made associate in the orthopedic department; Dr. Henry T. Hutchins has been appointed resident gynecologist, vice Dr. Steven Rush-

more, who has moved to Boston; Dr. Samuel Woolman has been appointed an externe in medicine and Dr. H. K. Beal has been appointed fourth assistant resident physician.——Dr. Samuel T. Darling sailed for Europe December 12.——Dr. J. Buck has gone to Jamaica.——Dr. Thomas H. Bucklin has been elected president of the Paint and Powder Club.

## MICHIGAN.

**Communicable Diseases.**—Deaths from typhoid fever in October numbered 156, more than in any other October since 1901.——An outbreak of typhoid fever is reported at Mancelona.——Physicians continue to report outbreaks of "Cuban itch."——Bangor, Van Buren County, is reported to have about 150 cases of scarlet fever.

## MINNESOTA.

**Communicable Diseases.**—The typhoid fever epidemic which has been so severe at Hibbing since September, is abating, as there are no more than 12 cases there at present. Since September 6, 286 cases have been reported to the health authorities ——The scarlet fever situation in Spring Valley is improving, and the board of health is now confident that the spread of the disease has been checked.——At Virginia there are 4 cases of smallpox, all of which developed within a week. All the patients are from the lumber camps north of the city.——Smallpox is said to be prevalent in Camp 35 of the Tower Lumber Company on Lake Vermilion, and the camp is held in quarantine.——Five cases of smallpox have been located in the western part of Stearns County, near Sauk Center, and there are three cases in one family southwest of that place. ——The quarantine of the camp of the Minnesota Cedar Company, near Funkley, has been removed.

## MISSOURI.

**Hospital Saturday.**—The receipts for Hospital Saturday, December 1, in St. Louis, exceeded by $3,000 the amount received last year. The total contributions for the day were $20,546.09.

**Germs Forbidden in Mails.**—The St. Louis postoffice has notified the city bacteriologist that in the future cultures of diphtheria, typhoid and tuberculosis germs will not be accepted for transmission by mail.

**Gasoline Isolation Boat.**—A gasoline launch has been purchased by the health department of St. Louis, which will be used for the transportation of patients suffering from contagious diseases to the quarantine station, located two miles south of Jefferson Barracks.

**Hospital Notes.**—The new infirmary for the Lafayette County farm, near Lexington, is practically completed and will be ready for occupancy some time this month.——The Burge Deaconess Hospital, Springfield, a two-story frame building with 18 rooms, 12 of which are furnished and equipped for patients, was opened for public inspection, November 29.

**University Medical School.**—The executive committee of the board of curators of the Missouri State University, on November 27, decided to offer the junior and senior years of the medical school connected with the university, to Kansas City, provided certain conditions which had been imposed were met. The curators insist on a bonus of $100,000 and a committee consisting of citizens and the Kansas City alumni of the university has been appointed to discuss the means for obtaining this amount.

## NORTH CAROLINA.

**Personal.**—Dr. Thomas A. Mann, health officer of Durham, who has been seriously ill at the Watts Hospital, is reported to be convalescent.——Dr. William D. Witherbee, Charlotte, has been appointed professor of orthopedic surgery in the North Carolina Medical College, vice Dr. H. Stokes Monroe, removed to Columbus, Ga.——Dr. L. P. Sorrel, who was elected coroner of Wake County declined to qualify on account of pressure of other work.——Unfavorable reports are received concerning the condition of Dr. P. L. Murphy, superintendent of the State Hospital for the Insane, Morgantown, who recently underwent operation in Baltimore.——Dr. James McKee, Raleigh, superintendent of the State Hospital for the Insane, has returned to his duties after an absence on account of ill health.

## NEW JERSEY.

**Personal.**—Dr. C. Jerome Mossinger, Collingswood, who was arrested at Philadelphia, charged with performing a criminal operation, was released by the Magistrates Court November 24.

**Anti-Tuberculosis Society Organized.**—At a meeting of physicians in Millville, a Society for the Prevention and Relief of Tuberculosis was organized. Dr. Samuel D. Bennett was elected president.

**Trace Water Pollution.**—At a conference between the sewage commission and Bridgeton officials, December 1, steps were taken to urge the city to overcome the pollution of the streams in its vicinity. The commission reported that samples of water had been taken from the Cohansey at various points, beginning at Bridgeton and continuing over two miles to the Greenwich oyster beds. This was analyzed to determine the presence of organisms, but not necessarily of typhoid germs. In the water taken from the river at Bridgeton there were large quantities of bacilli present. The proportion decreased until at Greenwich it appears there were only about 200 to the cubic centimeter. It is claimed that the sewage of Bridgeton is carried to these oyster beds and infected the oysters.

## NEW YORK.

**A Hospital at Tuxedo.**—A new hospital is to be built during the coming season at Tuxedo for the residents of Tuxedo Park. The hospital will be under the supervision of Dr. E. C. Rushmore and will be equipped with a full staff of physicians.

**Communicable Diseases.**—An epidemic of diphtheria has caused the closing of the public schools of Windmere, Long Island, where 7 cases with 2 deaths have been reported.—— At the Church Home, Buffalo, 14 cases of scarlet fever are reported.

**County Medical Association Election.**—The Rockland County Medical Association held its annual dinner and election December 5. Dr. Charles Kline, Nyack, was elected president; Dr. Sanford Suffern, vice-president; Dr. Robert F. Feltner, Pearl River, secretary, and Dr. George A. Leitner, Piermont, treasurer.

**Sanatorium not Sanitarium.**—Dr. Herbert Maxon King, physician in chief of the Loomis Sanatorium, calls attention to an error in the change notice of the corporate name of the institution, in THE JOURNAL of December 8. The change should be from the Loomis Sanitarium for Consumptives, to Loomis Sanatorium.

**Personal.**—Dr. Earl G. Danser, Buffalo, medical examiner for Erie County, has recovered from a serious attack of septicemia.——Dr. Byron B. Havens, Penn Yan, has been appointed jail and court house physician.——Dr. Charles H. W. Auel has been elected vice-president of the Buffalo German Hospital.——Dr. Spencer L. Higgins, assistant surgeon at the Hospital for the State Soldiers' Home, Bath, has resigned to enter the Medical Department of the Navy.——Dr. D. P. Card, Utica, who was appointed assistant surgeon at the Soldiers' Home and Hospital, Bath, resigned after five days to accept a position in the Manhattan State Hospital, Ward's Island, and Dr. C. Foster, junior physician at the State Hospital, Central Islip, Long Island, has been appointed to fill the vacancy.——Dr. Edward C. Koenig, North Tonawanda, has been appointed medical examiner for the postoffice department for the district.——Dr. Harry R. Gaylord, Buffalo, fell on an icy pavement December 4 and sustained a fracture of the leg.

## New York City.

**Personal.**—A Kings County Hospital ambulance collided with an Ocean Avenue car on December 13 and the ambulance surgeon, Dr. Albert, received injuries which it is feared will prove fatal.

**Smallpox on Steamer.**—The Hamburg-American steamer *Blucher* was detained at quarantine because of a case of smallpox discovered in the second cabin. The passengers occupying the same compartment with the patient were also detained at Hoffman Island.

**Medical Student Dies.**—Jacob Tararosky, Brooklyn, a student at the College of Physicians in the City of New York, is reported to have killed himself by taking carbolic acid, December 3. He had made a special study of tuberculosis and, it is said, became inoculated with the disease.

**Suicides.**—During the three months ended November 24, 191 suicides were reported, an average of more than two a day. Of the total number, 55 selected shooting as a means of death; 20 died by carbolic acid; 20 hanged themselves; 17 chose asphyxiation; 1 took Paris green; 9 jumped from high places, one leaped in front of a train and one used chloroform.

**Contagious Diseases.**—There were reported to the sanitary bureau for the week ended December 8, 356 cases of tuberculosis, with 162 deaths; 276 cases of diphtheria, with 32 deaths; 155 cases of measles, with 5 deaths; 149 cases of scarlet fever,

with 9 deaths; 72 cases of typhoid, with 15 deaths; 82 cases of whooping-cough, with 10 deaths; 8 cases of cerebrospinal meningitis, with 2 deaths; 147 cases of varicella, and 13 cases of smallpox, a total of 1,228 cases and 235 deaths.

**New Home for Cripples.**—At the annual meeting of the officers and directors of the School for Crippled Children it was reported that on account of lack of space the society had been obliged to turn away hundreds of crippled children. A new four-story building in Water street has been planned as a home for crippled children which will be equipped with a dispensary, baths, roof-garden and light and airy class rooms, which will be open for occupancy by the first of September.

**Personal.**—Drs. W. C. Cramp, H. L. Hobker, Leroy J. Smith and A. J. Heitlinger have been appointed receiving physicians at Bellevue Hospital. They serve on shifts of six hours, in the reception room to receive patients and assign them to the proper wards.——Dr. Joseph L. De Verona, house surgeon to St. Catherine's Hospital, Brooklyn, was tendered a farewell reception and banquet December 3, at which he was presented with a set of surgical instruments.——Dr. H. Beeckman Delatour, superintendent of the Brooklyn Ambulance Hospital and attending surgeon at St. John's Hospital, is reported to be seriously ill with typhoid fever.

## OHIO.

**Medical Staff Appointed.**—The medical staff of the Cincinnati City Hospital has undergone the following changes: Dr. William D. Porter has been appointed obstetrician, vice Dr. William H. Taylor, resigned and Dr. James W. Rowe, Mark A. Brown, Henry E. Griewe, Arch I. Carson, Carl Hiller, H. H. Hines and Frank E. Fee, have been made assistants. In all the other departments the old staff has been reappointed.

**Laboratory Endowed.**—Mr. H. M. Hanna and Col. O. H. Payne, have each given $100,000 to the Western Reserve University, Cleveland, for the building, equipment and endowment of a laboratory of experimental medicine in the medical school. Dr. George N. Stewart, head of the physiologic department of the University of Chicago, has been elected the first incumbent of the chair of experimental medicine in the university.

**Councilor District Society Meeting.**—The thirty-sixth annual meeting of the Eighth District Medical Society was held in Zanesville, December 5. Dr. Edmund C. Brush, Zanesville, was elected president, and Dr. W. E. Wright, Newark, secretary. The society adopted resolutions setting forth that the state institutions for the insane, the epileptic, the blind, etc., should be presided over by physicians skilled in the special practice of medicine applicable to these diseases and favored an examination by a competent board into the qualifications of applicants for positions in these institutions.

**Personal.**—Dr. Alvah S. McClain, Cleveland, school physician for the Sixth ward, has resigned.——Dr. Charles H. Bogman, Zanesville, is reported to be seriously ill.——Dr. John H. Tressel, Alliance, is ill at his home.——The residence of Dr. Samuel S. Wilson, Xenia, was seriously damaged by fire and water, November 11.——Dr. John H. Criswell, Marion, who has been seriously ill, is reported to be improving.——Dr. Harris G. Sherman has been elected president of the Cleveland Medical Library Association, vice Dr. Dudley P. Allen; Dr. David H. Beckwith, vice-president; Dr. Henry L. Sanford, secretary; Dr. William E. Bruner, treasurer, and Dr. Carl A. Hamann, librarian.

## PENNSYLVANIA.

**Insane Hospital Crowded.**—On account of the overcrowded condition of the State Hospital for the Insane, Norristown, 470 patients are sleeping in the corridors. There are at present 2,500 inmates of the institution. At a meeting of the trustees of the hospital December 7, it was decided in view of the overcrowded condition, to ask the legislature for appropriations aggregating $416,000 to enlarge the institution. Among the items are: Two ward buildings, $100,000; home for men nurses, $75,000; building for convalescent men, $60,000; chapel and amusement hall, $50,000; additional farm land, $30,000.

### Philadelphia.

**Bequests.**—By the will of the late Elizabeth Anderson, two properties at 1516 and 1518 South Seventeenth Street, are bequeathed to the Philadelphia Home for Incurables. The entire estate is valued at $77,671. After a bequest of a private residence, the balance of the estate is directed to be converted into cash to permit of the following bequests to be made: To the Presbyterian Home for Widows and Single Women, $6,000; to the Presbyterian Hospital, $5,000 to endow a free bed to be known as the Elizabeth Anderson free bed; to the Philadelphia Home for Incurables, $500; and after making several other bequests, charitable and private, the balance of the estate is left to the American Oncologic Hospital, with instructions that a tablet be erected to the memory of the donor.

**Health Report.**—The total number of deaths reported for the week ended December 14, was 500. This is a decrease of 16 from the preceding week and a decrease of 9 from the corresponding week of last year. The principal causes of death were: Typhoid fever, 24; measles, 2; pertussis, 3; diphtheria, 5; consumption, 59; cancer, 30; apoplexy, 30; heart disease, 59; acute respiratory disease, 55; peptic ulcer, 4; enteritis, 18; hepatic cirrhosis, 9; appendicitis, 6; Bright's disease, 37; suicide, 1; accidents, 22; marasmus, 6, and unknown, 5. There were 272 cases of contagious disease reported, with 29 deaths, as compared with 307 cases and 29 deaths reported for the previous seven days.

**Blockley Residents Meeting.**—The ex-residents and residents of the Philadelphia Hospital held their twentieth annual meeting and banquet on December 14. Dr. Edward L. Duer presided and Dr. Edward E. Montgomery was toastmaster. Dr. W. M. L. Coplin, Director of the Department of Health and Charities was the guest of honor and responded to the toast: "Blockley as it is and will be." The following officers were elected for 1907: President, Dr. Edward L. Duer; vice-presidents, Drs. Horatio C. Wood and Roland G. Curtin, and secretary, Dr. Edward R. Stone.

**Hospital Bids Opened.**—The bids presented to Dr. W. M. L. Coplin for the erection of the scarlet fever and diphtheria departments of the new contagious disease hospital varied from $785,962 to $908,878, and the time required to complete the buildings, from ten to nineteen months. The sum of $891,500 is available for the purpose from the $16,000,000 loan of March, 1903.

**Election of Officers.**—The following officers were elected at the meeting of the Kensington Branch of the Philadelphia County Medical Society, December 7. Chairman, Dr. Henry G. Godfrey, and clerk, Dr. William T. Hamilton.

## VIRGINIA.

**Physician Acquitted.**—Dr. Bushrod L. Sparks, Charlottesville, charged with criminal malpractice in July last, was acquitted by the jury, November 24.

**New Hospital.**—A new hospital is to be established in Berkley ward, South Norfolk, and an option has been secured on a residence to be remodeled as a hospital at a cost of from $6,000 to $7,000.

**Medical Faculty Election.**—The Petersburg Medical Faculty held its sixty-first annual meeting November 15 and elected the following officers: President, Dr. John Mann; vice-presidents, Drs. William W. Gill and W. Preston Hoy; recording secretary, Dr. Leverette S. Early, and court medical, Drs. J. Bolling Jones, William E. Harwood, Frank W. Hains, E. Leavenworth McGill and James E. Smith.

## CANADA.

**New Association Formed.**—The Ottawa Valley Medical Association has been formed and embraces the counties of Renfrew, Lanark and Carleton in eastern Ontario.

**Elections to the Medical Council.**—Dr. R. J. Gibson, Sault Ste Marie, Ont., has been elected from his district to the Ontario Medical Council; Dr. J. S. Hart for Toronto West; Dr. J. H. Cormack for St. Thomas' district, and the following to represent the homeopathic practitioners: Drs. E. T. Adams, A. P. Hardy, C. Jarvis, Toronto; Dr. Lutton, St. Thomas, and Dr. Henderson, Strathroy.

**Committee on Association Meeting.**—The following local committee has been appointed in Montreal to undertake the conduct of the annual meeting of the Canadian Medical Association in that city next year: Drs. Shepherd, Blackader, Lachapelle, England, Wm. Gardner, Roddick, Armstrong, W. F. Hamilton, Shirres, St. Jacques, Harwood, De Martigny, Garrow, Reddy, Boulet, Monod, Mercier, Villeneuve, Aubrey, Hingston; Birkett and Ridley McKenzie, *ex officio*.

**Opsonic Therapy at the Toronto General Hospital.**—Dr. George W. Ross, who worked for some time under Sir Almroth Edward Wright of London, has recently been conducting successful experiments in the Toronto General Hospital in opsonic therapy. Dr. A. H. Caulfield, the pathologist to the hospital, has been associated with him. During November some 25 cases were successfully experimented on. Dr. Ross is now in New York, at the Rockefeller Institute, while Dr. Caulfield will soon go to London, at Sir Almroth's request, to assist in experiments being carried on there.

**Hospital News.**—During October Toronto paid various hospitals in the city for charity cases $4,169.50. Of this sum Grace Hospital got $306; Hospital for Consumptives, Gravenhurst, $200; Hospital for Consumptives, Weston, $511.50; St. John's Hospital, $13; St. Michael's Hospital, $1,305; the General Hospital, $1,319.50; the Western Hospital, $505.50.——The revenue from the maintenance account of the Ontario asylums or provincial hospitals for the current year totals $150,370.29. This represents the pay patients' fees and is a considerable increase over that of previous years. For 1905 the amount was $123,253.83, and in 1904, $90,941.39.

**The Legal Status of Osteopaths.**—The Court of Appeal of Ontario has given decision on the state case from the Ontario government as to whether or not an osteopath could legally practice his profession in Ontario, deciding that there was not sufficient or proper evidence before them to pronounce thereon. It is understood that a bill will be presented at the next meeting of the Ontario legislature to enable osteopaths to treat those people whom they think they have a right to treat. There are about eight qualified osteopaths practicing in Toronto. It is not definitely decided what steps the Ontario medical profession will take in the matter.

## FOREIGN.

**Copley Medal Goes to Metchnikoff.**—The Royal Society in London has awarded the Copley medal this year to Metchnikoff of Paris.

**Damage Suit for Leaving a Cotton Swab in Wound.**—The Swiss courts recently acquitted a surgeon who was sued for damages by a patient on whom he had performed an operation for goiter and had left a cotton swab in the wound. Tedious suppuration and paralysis of the right vocal cord resulted and the patient claimed substantial damages. Drs. E. Burckhardt of Basle and Valentin of Berne testified that a wad of cotton soaked with blood resembles human tissue so closely that, under the circumstances, its being overlooked should not be regarded as malpractice. The surgeon was consequently acquitted.

**Organization of the Profession in Bohemia.**—The *Prager med. Wochschr.* for November 29 brings the full text of the constitution and by-laws of the new organization of the physicians of German Bohemia to promote their material interests, founded on the same lines as the German *Leipziger Verband*. The preliminary meeting to elect officers and ratify the constitution is to be held at Prague, December 26. The profession has been organizing for the purpose in local branches throughout the country, and the success already realized sustains the claims of the promoters of the movement that "the profession is becoming united and strong" by the organization already accomplished.

## LONDON LETTER.

(*From Our Regular Correspondent.*)

LONDON, Dec. 9, 1906.

### The Prime Minister and Infantile Mortality.

A deputation representing the National Conference on Infantile Mortality, which was held in June, as previously stated in THE JOURNAL, waited on the prime minister, Sir Henry Campbell Bannerman, and the president of the local government board to urge the necessity of government action in reference to infantile mortality. Bailie Anderson of Glasgow submitted resolutions passed by the conference which were to the effect that the education department should add to the present teaching in hygiene given to senior girls, instruction in the rearing of infants; that sanitary authorities should establish depots for the supply of pure modified or sterilized milk; that all births should be notified to health officers; that the period of abstention from factory work of one month, as now imposed on mothers, be extended to at least three; that all preparations sold as food for infants should be certified by a government analyst as non-injurious, and that there should be more effective supervision of dairies, milkshops and cowsheds. The prime minister said that he and Mr. Burns are deeply impressed with the importance of the subject. The evil is simply appalling, for 120,000 babies died last year in England and Wales. While the standard of health of the community is improving the death rate of children is becoming worse. He thought the first and most important reform should be to secure better conditions of maternity; that the child should be well reared. The president of the local government board, Mr. John Burns, also delivered a sympathetic reply, referring to great good which had been done by supplying sterilized milk. In one district, within the range of the special milk supply, the infantile death rate was 56 to 100 as compared with the rate of 150 to 273 among a similar class outside that area.

### Singing for Soldiers.

At a meeting held at Aldershot Surgeon-General Evatt pleaded strongly for the cultivation of singing in the army and navy. He pointed out the value of singing in preparing the lungs for the strain put on the internal organs by physical training. He also referred to its value as a recreation. He read a number of letters from high military officers—the duke of Connaught, Lord Wolseley, Sir Evelyn Wood, Admiral Seymour and Sir A. Keogh, director-general of the Army Medical Corps—approving of his suggestion, as did some eminent musicians also. An address was delivered by Dr. A. Summerville, inspector of music of the board of education, who said that nothing trained men to work together better than music and rhythm. An executive committee, for the purpose of forming a soldier's musical society, was created.

### Anthrax Investigation at Bradford.

An Anthrax investigation board in the manufacturing town of Bradford, where most of the cases occur, has issued an annual report which is far from encouraging. A temperature of 300 F. (dry heat) must be maintained for three hours to kill anthrax spores. Such a temperature would destroy hair used for manufacturing purposes.

# *Pharmacology*

### United States Pharmacopeial Trustees' Affairs.

The board held a special meeting at Philadelphia, December 8. Messrs. Charles E. Dohme, J. H. Beal, S. A. D. Sheppard, H. M. Whelpley and J. P. Remington were present; Chairman Dohme presided.

S. A. D. Sheppard, Chairman Special Committee on Rice Memorial Volume, reported distribution of paper bound volumes of the Pharmacopeia among the colleges of pharmacy.

Dr. H. M. Whelpley reported as representative of the trustees at the funeral of Albert E. Ebert, a late member of the board. The chairman appointed a committee consisting of H. M. Whelpley, S. A. D. Sheppard and J. P. Remington to prepare resolutions on the death of Mr. Ebert. Dr. J. H. Beal was appointed to investigate the cost and feasibility of having prepared large crayon portraits of Albert E. Ebert to be suitably inscribed and presented by the board of trustees as a memorial of Mr. Ebert to colleges of pharmacy belonging to the American Conference of Pharmaceutical Faculties.

#### SPANISH PHARMACOPEIA.

Joseph P. Remington, chairman of special committee, reported that 250 typewritten pages of the Spanish translation of the Pharmacopeia had been prepared. The work of translation is being done by Professor Diaz, of the University of Havana.

The secretary of the board, Dr. Murray Galt Motter, was instructed to call the attention of the presidents of the pharmaceutical associations to the copies of the Pharmacopeia which have been placed at their disposal for use as prizes.

#### OFFICIAL ORGANS CHOSEN.

The *Bulletin* of the American Pharmaceutical Association and THE JOURNAL of the American Medical Association were adopted as official organs of the board of trustees.

#### CORRECTIONS TO THE PHARMACOPEIA.

Joseph P. Remington, Chairman of the Committee of Revision, was authorized to have the plates cut and necessary corrections made in the text of the U. S. Pharmacopeia before further copies are printed. Mr. Remington reported a hearing given representatives of manufacturing chemists and a committee from the N. W. D. A. in conference with some of the subcommittee chairmen of the Committee of Revision. The meeting was held December 6. The Committee on Revision was authorized to publish any corrections that are made in such a manner that the sheets can be inserted in copies of the Pharmacopeia now in use. Chairman Remington was authorized to act as the agent of the board of trustees in promulgating such corrections.

VACANCY IN BOARD OF TRUSTEES.

The secretary of the convention, H. M. Whelpley, was instructed officially to inform the officers of the convention and members of the board of trustees of the vacancy in the board caused by the death of Albert E. Ebert, and to call for nominations and then for a vote on the nominees to fill the vacancy.

SUPPLEMENTS TO THE PHARMACOPEIA.

A communication from Thomas F. Main, chairman of a special committee of the Northwestern Druggists' Association, requesting the publication of annual supplements to the United States Pharmacopeia was received and the secretary of the board was instructed to acknowledge it with the thanks of the board and to state that, while the board is without authority to issue annual supplements, the propriety of publishing the supplement provided for by the convention is now under consideration.

DELEGATES TO CONVENTION OF 1910.

A communication from the St. Louis Chemical Society, signed by the corresponding secretary, C. J. Borgmeyer, suggesting that chemical societies of the United States be invited to send delegates to participate in the deliberations of the convention of 1910, was read and will be given careful consideration.

The board adjourned subject to the call of Chairman Dohme, after adopting a motion favoring St. Louis as the place for the annual meeting in May, 1907.

HENRY M. WHELPLEY,
Secretary, U. S. P. Convention.

## Correspondence

### The Dangers of the X-Ray.

PHILADELPHIA, Dec. 14, 1906.

*To the Editor:*—In THE JOURNAL, December 8, Dr. William Allen Pusey makes some comments on my article entitled "The Attitude of the Clinician in Regard to Exposing Patients to the *X*-Ray." I fully appreciate the fact that controversial correspondence is of practically no value to the profession at large, and I assure you that I shall not again, through the correspondence columns, trespass on your space in reference to this subject. I do so in this instance, not in the hope of altering Dr. Pusey's personal views, but because, like himself, I am actuated by a desire that my opinions be not put in a false light through inaccuracy on the part of myself or others.

Dr. Pusey does me the undeserved honor of classing me with scientific men, and then immediately robs me of this agreeable distinction by accusing me of historical inaccuracy and, apparently also, of unfairness toward such work as that which he inaugurated in the treatment of leukemia and Hodgkin's disease. His very emphatically expressed opinion that the dangers I referred to do not exist, I need not discuss, for my article is sufficient evidence that I belong to the large group of persons that consider the views that Dr. Pusey expresses and reiterates to be at present entirely unsafe and at variance with what appear to be well demonstrated facts. The actual frequency with which these dangers are encountered is a matter that neither Dr. Pusey nor I can, as yet, determine.

The charge, however, that I was inaccurate and unfair, I prefer not to pass in silence, because I had a serious purpose in writing the article under discussion, and I desire that any influence it might exert be not impaired by a suspicion that I had a wholly inadequate knowledge of the subject on which I wrote. Furthermore, while I consider that there should be a clear recognition of the dangers, other than burns, that are associated with the use of the *x*-ray and that the utmost care should be used to avoid them—as is already done conscientiously by many *x*-ray operators that I know, I believe, too, that in occasional instances dangers will inevitably be encountered, in spite of great care, yet I am aware that in some degree these same things can be said of most therapeutic agencies that have a very pronounced effect, and I should, of course, hold no one culpable if, in using an agent known to have valuable effects, untoward accidents occurred—providing he were not ignorant of known dangers and had not neglected to take precautions against them. I am desirous that the *x*-ray should be made as useful in therapeutic and diagnostic ways as can be safely done, and I fear that Dr. Pusey's letter, if not remarked on, would in a reactionary way do much more to produce an epidemic of hysterical fear than could my own article, if the latter were read, not with undue indignation, but with comprehension of the fact that I am not an enemy of the use of the *x*-ray. I consider, on the contrary, that knowledge of its valuable effects will simply be obscured by indignant denial of the existence of dangers that appear to be unquestionable, while it will be furthered by cautiously and carefully excluding these dangers as far as possible, leaning, when in doubt, toward excessive caution rather than in a contrary direction. This, I think, is, to a calm observer, made plain in my article.

As to the charges of inaccuracy and unfairness, it is the latter that I most regret, because, while I have no fondness for inaccuracy, I have still less regard for unfair methods of supporting an argument. The charge, too, may appear to have some truth in it in this instance, unless one thinks for a moment of the manner in which therapeutic agents are at present usually studied before conservative physicians use them freely on human subjects. Dr. Pusey, in his charges, does not at all take into account the methods at present employed by the skillful pharmacologist.

The latter part of Dr. Pusey's letter consists chiefly of a denial of the occurrence of the gravest dangers of which I wrote; but I may be permitted to direct his attention to the fact that even though he denies the correctness of all the reports that he may see in literature, it does not necessarily follow that it is inaccurate for any one else to believe any of them. He makes a veiled but unfortunate demand for the details of the three cases of violent general reaction of which I stated I had the records. In modest appreciation of his evident fondness for the literature, I need merely refer him to the "Transactions of the Association of American Physicians," vols. xx and xxi, where they are already in print in brief form. It is desirable, however, that he should know that none of these patients had exposures severe enough to produce burns.

In reply to the earlier part of his letter, in which he more directly accuses me of lack of consideration of the literature of the subject, I would beg him to note that support of his contention is built on distortion of my language. I did not discuss "the idea or the possibility" or the "fear" or the "dread" of *x*-ray dangers—words that he appears mistakenly to consider the equivalents of those that I used—but the "realization" and "recognition" of the danger of harmful effects on the general organism. These, and many other words in my article, were chosen with some care, because I anticipated criticism; and if their actual meaning be considered it will, I think, be apparent to everyone acquainted with the literature that they do no violence to historical facts. Indeed, as I comprehend the present situation, Dr. Pusey even yet, neither realizes nor recognizes the dangers that I especially discussed—in fact, he denies that the literature shows a single instance of such dangers—but, nevertheless, through making his words and mine equivalent—he takes me to task for not having learned from the literature that they were realized and recognized "from the time that the first *x*-ray burn occurred."

It is, however, not a mere question of words. Dr. Pusey evidently believes that I had overlooked the literature to which he refers, and which he considers to constitute thorough studies of the effects of the *x*-ray on the tissues. He is in error on this point. Scholtz' work, to which he refers, was a valuable investigation of the effect of the *x*-ray on the tissues of the skin and on bacteria. His observations concerning the effects on the deeper tissues, which had negative results, were trivial in number and character; and, further, his conclusions, which he describes in a few lines, have since been, in some extremely important particulars, most definitely controverted. Oudin, Barthélemy and Darier, in their well-known paper, published in 1897, made no studies of the lesions in

other tissues than those of the skin. There are, as he says, no more important articles published before 1903 in which tissue changes are discussed. Neither these authors, nor any others, made serious studies of the more profound effects of which I wrote, except that a number described grave and even fatal symptoms in animals after severe exposures, but no serious studies were made to determine what lesions caused death.

I am, of course, not at liberty to burden you with an extensive review of the literature on the subject; and it is unnecessary. I may, however, say that so far as the point under discussion is concerned, Dr. Pusey will find that Rodet and Bertin, in 1896, and a number of authors afterward (Scholtz among them), apparently demonstrated (though many questioned this) that severe *x*-ray exposures may kill animals, while clinicians, and particularly *x*-ray operators, had anxiously suspected that some disquieting general symptoms observed by them were due to the *x*-ray, and had strongly urged caution. There was no study of the effects on the deeper-lying organs, that deserves any serious consideration, until 1903, when Albers-Schonberg directed attention to the effects on the generative organs, and it was not until 1904, when Baermann and Linser described the effects on nitrogen-metabolism, and Heineke published his extensive description of the remarkable lesions that may occur in some of the organs of the interior of the body and proved clearly that death may be produced by severe exposures, that there was any real knowledge, gained through experimental study, of the influence that this agent may exert on the general organism. Warthin's work appeared later than Heineke's, but he deserves practically equal credit, since it was done independently and almost coincidently.

Before Albers-Schonberg's work appeared, and therefore still longer before Heineke's and Warthin's were published, clinicians and *x*-ray operators had used the *x*-ray in the treatment, as I said, of all manner of conditions; and even before 1902, contrary to the opinion that Dr. Pusey seems to have gained, the literature shows that it had been used in a large variety of conditions, including, in addition to many skin affections, various kinds of painful affections, and likewise acute and chronic infectious diseases, and other deep-seated disorders. This, as I stated, was hazardous, and was not in accordance with the usual methods followed at present in studying therapeutic agents; and while it was done with humane intent, we have now acquired sufficient knowledge to demonstrate that it is not justifiable to proceed further without greater caution.

Dr. Pusey appears, unfortunately, to consider that I struck individuals afoul in aiming at the general precipitancy with which the *x*-ray has been used. I admit that it is difficult to strike in any direction without hitting something, if the object chances to be within range; but if I did tacitly include among practices that are somewhat hazardous the treatment of leukemia and Hodgkin's disease with the *x*-ray, I did not do so without having given due consideration to the reason that first led the originator of this method to practice it. Indeed, his reason for using the *x*-ray in these diseases appealed and still appeals to many clinicians, of whom I am one, as a brilliant suggestion, and the equally remarkable results of the treatment led us to an extensive use of it. We have since realized that it would have been more in accordance with our customary methods if we had first demanded some knowledge of the way in which these especially marvelous effects are produced, and of the dangers that sometimes appear as a consequence of this profound action; but while we now recognize that the practice is associated with hazards, the responsibility for any ill-effects falls not on one individual; it is, on the contrary, pretty widely distributed in various countries, and I would beg Dr. Pusey to observe that there were many in the boat when the storm broke, and that I cried *peccavimus*, not *peccavistis*. It is probably desirable that the treatment of leukemia and of Hodgkin's disease by this means should be continued, using proper caution; and it is to be hoped that more nearly permanent effects may some time be produced, and that we may learn to avoid the dangers, for there are few conditions in which danger from this treatment seems more imminent than in leukemia, good as the temporary effects often are. It is certainly desirable that some other therapeutic uses of the *x*-ray that are already established be continued, and that new uses be found; but it is equally desirable, as I have already said, that there should be a calm but definite appreciation and an increasing knowledge of the dangers that pertain to the use of this agent.

DAVID L. EDSALL.

## Priority in Publication.

CHICAGO, Dec. 12, 1906.

*To the Editor:*—Will you favor me by publishing the following letter from Dr. Watkins, together with my statement of the case, both of which I submit herewith:

*Dr. E. C. Dudley:*

*My Dear Doctor:*—In THE JOURNAL of the American Medical Association for Nov. 17, 1906, I note an article by you on "The Utilisation of the Broad Ligaments in Complete Descent of the Uterus," etc. I quote the following from your paper:

"I propose a new operation, the essential factor of which is the utilisation of the broad ligaments as supports of the pelvic floor without removal of the uterus."

In your paper I am given no credit for this operation, although it was described in the *Medical and Surgical Report* of St. Luke's Hospital for the year 1905, which was published in the early part of 1906, and in which you and I contributed articles, and also in *Surgery, Gynecology and Obstetrics*, June, 1906. In these publications I advocated separation and suture of a portion of the base of each broad ligament in front of the cervix as one of the modifications for the operation I described for the "Treatment of Cases of Extensive Cystocele and Uterine Prolapse."

I beg leave to again call your attention to the following extracts from my paper:

"This modification is made by severing a portion of the base of each broad ligament from the cervix and by suture of the free ends of the broad ligaments together in front of the cervix. The remainder of the operation is the same as above described."

"If it is inadvisable to render the patient sterile, the operation may be modified by leaving the body of the uterus free in the abdominal cavity and by suture of the anterior vaginal wall to the round ligaments and to the lower surface of the uterine body. In exceptional cases the base of each broad ligament may be severed and united in front of the cervix as described above."—*Medical and Surgical Report* of St. Luke's Hospital for the year ending September 30, 1905, and *Surgery, Gynecology and Obstetrics*, June, 1906.

Thanking you in advance for making the necessary corrections in THE JOURNAL of the American Medical Association, I remain, very sincerely yours. THOMAS J. WATKINS.

December 3, 1906.

In compliance with the above request and in order to show that I have called no other man's work my own and for the information of those, if such there be, who perchance may be interested, I take pleasure in making the following statement:

The transactions of St. Luke's Hospital for 1905 were published, not early in the year as alleged, but about April 8, 1906. *Surgery, Gynecology and Obstetrics* for June, 1906, was published June 19. I find on consulting these two publications that they contain an article by Dr. Watkins descriptive of an operation for descent of the uterus and cystocele, which operation is entirely different from that described by myself. I find also that there is wedged into a paragraph where any one without careful reading might overlook it, a short statement of three or four lines to the effect that in exceptional cases the base of each broad ligament may be severed from the sides of the uterus and united in front of the cervix. This procedure, which embodies the essential principle of the operation for descent described by myself, obviously was introduced in the paper of Dr. Watkins as an incidental suggestion only. It was not included even among the illustrations of this otherwise profusely illustrated paper. The suggestion, however, although appearing in such form, furnishes, so far as it goes, valid ground on which may be based a clear title to priority of publication. But after this has been said it is proper to take into account the following significant facts:

1. I discussed the illustrations for the procedure in question with the artist who made the drawings, Mr. J. K. Parker, in November, and gave him the preliminary sketches early in December, 1905. Moreover, I freely discussed the method as early as December, 1905, and frequently thereafter, with internes and assistants at St. Luke's Hospital, and with numerous other professional friends, so that months before any publication by either of us the fact of my having in preparation a paper on this method was known to many people.

2. In February, 1906, two months before the first publication by Dr. Watkins, I gave my article to THE JOURNAL of the American Medical Association for immediate publication, but on request, withheld it temporarily from publication in order that it might be read at the June session in Boston, and might

thereby become part of the transactions. The paper accordingly was read and illustrated with lantern slides on the sixth of June, 1906, precisely thirteen days before the appearance of the June number of *Surgery, Gynecology and Obstetrics*.

Until the above letter reached me I was not aware that any one ever had made any mention of the procedure. Had I known of this accidental priority of publication I would, of course, have introduced into my own article the substance of the above statement. E. C. DUDLEY.

### Medical Forgeries—The Hagen Burger Case.

KINGSTON, ONT., Dec. 8, 1906.

*To the Editor:*—The senate of Queen's University, at a meeting held Dec. 6, 1906, instructed the registrar to erase the name of Gotfried Leonard Hagen Burger from its list of graduates.

The minute of the senate will be of interest to your readers and is as follows:

The Senate of Queen's University, having met in conjunction with the Medical Faculty to consider questions which have arisen in connection with the degrees of Doctor of Medicine and Master of Surgery conferred on Mr. G. L. Hagen Burger by the said Senate, in September, 1904, find as follows:

First: That the degrees of Doctor of Medicine and Master of Surgery granted to the said Mr. Hagen Burger by the Senate of Queen's University were obtained in part after examination and in part on the credit of certain documents and certificates produced or referred to by him.

Second: That one of these documents, namely, a certificate from the State Board of Medical Examiners of Montana was founded on and required for its validity the possession of a regular degree in medicine obtained from some university or other institution authorized to grant such degrees.

Third: That the degree which Mr. Hagen Burger presented to the State Board of Medical Examiners of Montana was a degree purporting to be conferred on him by Kiel University.

Fourth: That the said degree from Kiel University has been ascertained beyond doubt to be a forgery.

In view of the findings, the Senate of Queen's University declare and adjudge that the degrees of M.D. and C.M. obtained by Mr. Hagen Burger from Queen's University were founded on documents which were invalid and they do hereby cancel these degrees and withdraw from Mr. Hagen Burger all right to use of them.

A recital of the evidence would encroach unreasonably on your space. Permit me only to say to our graduates and friends that although many difficulties arose in securing definite and adequate evidence, Professor Patchett's investigations in Germany during the past summer proved the forgery and enabled the senate to act. J. C. CONNELL, Dean.

## Book Notices

DIET IN HEALTH AND DISEASE. By J. Friedenwald, M.D., Clinical Professor of Diseases of the Stomach in the College of Physicians and Surgeons, Baltimore, and J. Ruhräh, M.D., Clinical Professor of Diseases of Children in the College of Physicians and Surgeons, Baltimore. Second edition, thoroughly revised and enlarged. Cloth. Pp. 728. Price, $4.00 net. Philadelphia: W. B. Saunders Company, 1906.

This volume is intended for the practitioner, the student and the nurse. The authors have accomplished with marked success the adaptation of the work to these different classes. The student will find in it a clear statement of the principles of dietetics, while the practical application of these principles in the treatment of different diseases occupies about two-thirds of the book and forms a reliable guide to the physician in selecting the diet and to the nurse in preparing and administering food. Digestion and the nature and composition of food are first discussed and the results of recent investigations are fully set forth, so that the work may be said to be well up to date. Occasionally one sees evidence that newer knowledge has not modified older statements as when the results of Chittenden's investigations, indicating that the amount of proteid required is far lower than has been supposed, is followed by the objection to a vegetable diet that the proteid requirements can not be supplied without the consumption of an excessive quantity of food. Certainly vegetarian dietaries can be arranged which will give the necessary amount of proteid according to these lower standards without the use of an excessive amount of other elements. In view of Chittenden's results it is probable that the vegetarian question needs reinvestigation. The food value of alcohol is discussed in the light of Atwater's experiments with an assumption that alcohol may be a valuable food. The authors quote Abel's investigations as showing that the action of alcohol is to reduce blood pressure if it produces any effect and then say: "In conditions of heart weakness and arterial relaxation alcohol stimulates the heart, tones up the arteries and tends to bring about a normal condition." Whatever may be the final decision as to the therapeutic value of alcohol, such a contradiction between experimental results and clinical experience does not seem possible; one or the other is wrong, and it is probable that with more exact methods of measurement of blood pressure, etc., clinical observation will fall into line with scientific experimentation.

In the treatment of typhoid fever conservative feeding is recommended. Milk is made the basis of the diet, and the principal additions to it are in carbohydrates in the form of gruels, etc. The treatment of gastrointestinal diseases is the usual one. In hyperchlorhydria a largely proteid diet is advised and little is said of the use of fats, while the carbohydrates are condemned. In pneumonia large quantities of water are advised without reference to the possibility of overburdening the right heart by the volume of the blood. The recent views with reference to the amount of water to be allowed in nephritis are adopted and the treatment of dropsy by the removal of salt from the food is noticed and commended as useful in some cases. The feeding of infants and children is fully considered and methods for the home modification of milk are described. The book closes with dietaries for public institutions, recipes, dietaries, and useful tables of chemical composition of American foods and rapid reference diet lists for various diseases. On the whole, we believe that for practical purposes the medical man will find this work one of the best on dietetics.

MINOR MALADIES AND THEIR TREATMENT. By L. Williams, M.D., M.R.C.P., Physician to the French Hospital; Assistant Physician to the Metropolitan Hospital, etc. Cloth. Pp. 383. Price, $2.50 net. New York: William Wood & Company.

The minor maladies dealt with by the author are colds, coughs, sore throats, indigestion, constipation, diarrhea, vomiting, giddiness, rheumatism, neuralgia, headache and goutiness. Some of these may seem to be beyond the pale of minor maladies, and it is somewhat surprising to see a chapter devoted to insanity. The forms of insanity dealt with are, however, milder cases which might yield to proper home treatment. The book is an amplification of lectures delivered by the author and aims to supply detailed information on subjects with which the ordinary text-book necessarily deals in a cursory manner. The aim of the book in general seems to have been carried out. It is a pity, however, that a writer of a text-book should be so indissolubly wedded to the use of nostrums as this author seems to be. The following is a partial list of those which appear in his pages: Glycothymoline, haseline, nebuline, nepenthe, phenason, sanitas, terrol, paroleine, cascarine le prince, mesotan, bromidia, antiphlogistine, etc. These in some cases enter into the prescriptions and must be regarded as essential parts of the author's treatment, while in other cases their composition is explained and substitutes recommended on the ground that the originals are too costly. If this is the only argument, it will have little weight with physicians who wish for their patients the best, and the favorable mention given to the nostrum is likely to greatly extend its use. A medical lecturer should take care not to encourage in his students the habit of nostrum prescribing any more than he would the use of alcohol, however much he may be addicted to employing them himself. The recommendation of nostrums in such a volume and for such complaints is the more to be deprecated, as it is in such cases that the greatest tendency to repetition and self medication is to be expected. The patient with pneumonia or typhoid fever is not tempted to economize on medical attendance by the use of proprietary medicines, but when he is once given something for his catarrh it is natural that he should continue its use not only for the same disease, but also for the diseases indicated on the labels or in the literature accompanying the original package. The slight ailments are the ones also in which the physician accepts most readily the aid of the nostrum manufacturer in order to escape the labor and trouble involved in unraveling the puzzling tangle of symptoms and framing an intelligent

and discriminating prescription. In addition, it seems as if the author's dignity is somewhat compromised by this too ready resort to ready-made formulæ, as even minor ailments demand that he who treats them should be sufficient master of his weapons to frame his own prescriptions and to know thoroughly the amount and character of the remedies he is using.

CLINICAL THERAPEUTICS. A Handbook on the Special Treatment of Internal Disease. By A. C. Croftan, Associate Professor of Medicine, Medical Department, University of Illinois, etc. Cloth. Pp. 626. Price, $5.00. Chicago: Cleveland Press, 1906.

This work is constructed from the standpoint of the physician at the bedside and, hence, gives unusual attention to the details of therapeutics. The feeding and bathing, the technic of all mechanical and physical means of treatment, as well as the use of medicines, the choice of climate and resorts and the indications for surgical intervention, are all discussed. In view of the fact that organic nervous diseases can not be influenced by treatment and that functional affections of the nervous system can best be treated in special institutions, the author has thought fit to omit them except so far as they can be included with the sections dealing with other systems. The treatment advised by the author does not appear to differ, in any marked respects, from that usually given, although in some cases modified by the results of his personal experience. The make-up of the book is liable to excite some adverse criticism. The prescriptions are a curious mixture of Latin and English, sometimes in the same prescription, but with rare exceptions the Latin genitive appears to have been utterly ignored. The absurd terms "iodide of potash" and "iodide of soda" are frequently used. There seems to be no uniformity in regard to the use of the final "e" in the names of the alkaloids, as we find "atropin" keeping company with "morphine." These are minor blemishes and do not detract from the real merits of the book.

WALSH'S PHYSICIAN'S COMBINED CALL-BOOK AND TABLET. Monthly Form. Thirtieth edition. Flexible Leather. Price, $1.50. Washington, D. C.: Published by Ralph Walsh, M.D., 1824 H. St., N. W.

This visiting list permits of an itemized record of all daily visits, office consultations, etc., so arranged that the patient's indebtedness can be instantly computed. Pages for obstetric and vaccination engagements, for cash receipts, addresses and other essential details of which the physician's memory may be relieved, are in evidence. A revised dose table and much general information make the book a valuable one.

THE PRACTITIONERS' VISITING LIST FOR 1907. A pocket-sized book containing memoranda and important data, and ruled blanks for recording the details of practice. Flexible leather. Price, $1.25. Philadelphia: Lea Brothers & Co., 1906.

Lea's visiting list is one of the old standbys in this class of annuals, this being the twenty-first year of its issue. It is unnecessary to say more than that it is keeping up its reputation as being one of the best visiting lists offered to physicians.

## Insurance Fees and Lodge Practice

### County Societies and the Insurance Examination Fee Question.

The following county societies, in addition to those already noted in THE JOURNAL, have adopted resolutions asking their members to resist the reduction in insurance examination fees. They are given by states.

Clark County (Arkansas) Medical Society.
Santa Barbara County (California) Medical Society.
Riverside County (California) Medical Society.
Santa Cruz County (California) Medical Society.
Marin County (California) Medical Society.
Pueblo County (Colorado) Medical Society.
Ware County (Georgia) Medical Society.
East Idaho District Medical Society.
Pike County (Illinois) Medical Society.
Decatur (Illinois) Medical Society.
Champaign County (Illinois) Medical Society.
Wineshago County (Illinois) Medical Society.
Vermilion County (Illinois) Medical Society.
Cumberland County (Illinois) Medical Society.
Fort Wayne (Indiana) Medical Society.
Boone County (Iowa) Medical Society.
Rice County (Kansas) Medical Society.
Stafford County (Kansas) Medical Society.
Queen Anne County (Maryland) Medical Society.
Dodge County (Minnesota) Medical Association.
Flathead County (Montana) Medical Society.
Broadhead County (Montana) Medical Society.

[We are also in receipt of a circular announcing that the physicians of Missoula, Ravalli and Sanders counties, Montana, have pledged themselves to make no examination at the reduced rate, the agreement being signed by every regular physician in the three counties.]

Jackson County (Mississippi) Medical Society.
Adams County (Mississippi) Medical Society.
The Medical Society of the County of Genesee (New York).
North Dakota Medical Association.
The Academy of Medicine of Cincinnati (Ohio).
Licking County (Ohio) Medical Society.
The Central Willamette (Oregon) Medical Association.
Aiken County (South Carolina) Medical Society.
White County (Tennessee) Medical Society.
Hood County (Texas) Medical Society.
Medical Association of Milam County (Texas).
Bostrop County (Texas) Medical Society.
Skagit County (Washington) Medical Society.
Grant County (Wisconsin) Medical Society.

The Fremont County (Colorado) Medical Society adopted resolutions which went into effect April 1. Under date of November 19 the secretary, Dr. Royal C. Adkinson, writes:

> I am informed that there is one man in Canon City, Colo., who signed the resolution, that has continued to make examinations at the old rate, but he is not a member of the county society. There is also one man here in Florence who is not a member of the society, and who refused to sign the resolution, who is making examinations for any price. He has received my appointment as examiner for the Mutual Life, the New York Life and the Phoenix, and my appointment has been recalled. On the other hand, some of the lesser companies are paying me $5 for examinations which I formerly made for $3.

The Carroll County (Georgia) Medical Society took action May 15. Under date of November 3 Dr. J. F. Cole, secretary, writes:

> Our resolutions are meeting with good results. The insurance companies have worried over the matter considerably and about all of them have agreed to our fees. Those who do not will have to quit business in Carroll County. The members of the Carroll County Medical Society are as a band of brothers—shoulder to shoulder, standing together as firm as a rock—not one of them has backslidden. . . . We do not allow any man or corporation to set our fees.

The Schoolcraft County (Michigan) Medical Society took action July last. Under date of November 23 Dr. G. M. Livingston, secretary, writes:

> The medical fraternity of this county stands pat on our insurance resolutions as adopted last July. As a result of our attitude toward the old line life insurance companies, a number of us, including myself, have been requested to resign our positions as local examiners. This we have done heartily for the sake of "the cause" and to show what we can do. No "insurance doctors" have so far entered the field, and my opinion is that no work is being done by the various companies in Schoolcraft County. We hope to keep in touch with the general movement for recognition in this matter, and believe as they do down in Kentucky that "United we stand, divided we fall."

The McLeod County (Minnesota) Medical Society adopted resolutions July 12. Under date of November 2 Dr. F. E. James, secretary, writes:

> In response to yours of the 31st ult. regarding progress of fight with insurance companies, I can say that to my knowledge the profession of our county stick to schedule of fees as already sent you.

The Robertson County (Tennessee) Medical Society adopted resolutions June 7. Under date of November 1, Dr. B. F. Fyke, secretary, writes:

> The resolutions went into effect July 1, and were fought on the field of the Modern Woodmen of the World and have gained the victory. Every physician is standing on his honor, where he was placed, and meeting the issue with a determination to overthrow the monopoly. The examiners of a few companies have been dismissed or dropped from the roll of examiners but no one has been secured to succeed them. One company long doing business in this county promptly

raised the examination fee from $3.00 to $5.00 and is paying it without complaint. A little diplomacy on the part of the medical societies is all that is needed to carry out the resolution in country districts.

On May 1 the Dunn County (Wisconsin) Medical Society adopted resolutions requesting its members to make no examination for any old line life insurance company for less than $5.00. Under date of November 9, Dr. F. E. Butler, secretary, writes as follows:

> In reply to your inquiry as to how our county members have held together regarding resolutions on insurance fees, will say that I think in one or two instances the resolutions were not lived up to, but on the whole it has been very satisfactory indeed, and conditions are improving. All members who received blank to be filled out accepting reduced fees either returned blank unsigned or paid no attention whatever to it. No member makes a fraternal insurance examination for less than $2.00, which resolution was passed in December, 1905.

Resolutions passed by the Ninth Ohio District Medical Society appear on page 2109, this issue.

**Contract Insurance Work—The Experience of Warren, Pa.**

WARREN, PA., Dec. 1, 1906.

*To the Editor:*—The profession must oppose contract work because, 1, It tends to lower fees; 2, it disrupts organization; 3, in the hands of corporations its aim is to supply the cheapest kind of service. A certain casualty company of Philadelphia known as the General Accident Assurance Corporation enlisted the factories in our town in the effort to compel their employés to be insured, both for accident and disease, taking one dollar a month out of the individual's pay. As an incentive to do this the employers were guaranteed against damages "on employers' liability."

Physicians were consulted by the company but the Physicians' Association of Warren refused to allow any one of its members to take the position of "insurance doctor." The "insurance doctor" is obliged to attend the insured employé free of charge but any assistance he requires must be paid for by the insured.

A man was imported, all kinds of inducements were held out to him. He was given a salary of $75 a month and hired for one year, but as the rest of the physicians refused to recognize him, and assistance from neighboring towns proved expensive, and the membership decreased, the doctor was given a week's notice and discharged. Again the physicians of the town were asked to take the position and one member of the association took it, conditionally, at the regular fees, but he was made to give it up or suffer professional ostracism.

The company then said they would break up the "doctors' trust" at any expense and a new man, just graduated, was imported at an increased salary; the membership still further diminished, the doctor's association appealed to the trades unions, it appealed to the new doctor himself and now he is going to leave. The membership will decrease still further and only two firms are connected with it.

Be firm with the members of your own organization, stand together, ostracise the man who would lower and disrupt the organization, and the corporation that is intent on commercializing medicine will be obliged to give up. An employé should have the liberty of chosing his own physician. Here the men were compelled to join the insurance club and employ the physician it furnished. This is good for the insurance company and for the employer. He escapes all liability and can afford to retain old and unsafe machinery or cheap unskilled help. The doctor who works for the company must make as little as possible of the injury or sickness so as to save the company from paying too large a benefit. He must take the company's side in damage suits and must belong to it soul and body.

The Physicians' Association offered to treat the men for the company allowing each man to employ his own physician. This they would not consent to, they must own the physician.

If there must be medical clubs and yearly contracts with hospitals, etc., let all the physicians be in it. Let the medical association receive the benefit. Ten Dollars a year will purchase accident and health insurance, and two dollars a year, from healthy individuals, may be sufficient for medical services, at least, insurance companies now thrive on it.

If necessary arrangements can be made with insurance companies for the insurance end of the scheme and if the insured can have his choice of the doctor, the contract evil would come to an end.

M. V. BALL.

## Marriages

WILLIAM MICHAEL HARTMAN, M.D., Good Hope, Ill., to Miss C. M. Donaldson of Dayton, Ohio, at Macomb, Ill., December 1.

FRANK B. LITTLEWOOD, M.D., New Rochelle, N. Y., to Miss Amy Bolton of the Borough of the Bronx, December 4.

WILLIAM T. LINDSAY, M.D., Madison, Wis., to Miss Bertha Almeda Shepard of Battle Creek, Mich., November 14.

LEONARD S. HUGHES, M.D., contract surgeon United States Army, to Miss Argyra Kaston, at Omaha, Neb., recently.

JESSE WRIGHT HAMER, M.D., Clio, S. C., to Miss Clara Louise Yingling, at Westminster, Md., November 28.

A. M. GUSTAVE DE MONSABERT, M.D., Windom, La., to Miss Noemi Picheloupe of Cade, La., November 9.

J. WALTER FAHRNER, M.D., to Miss Grace Huntington, both of Joliet, Ill., at Grand Rapids, Mich., recently.

THOMAS J. MALONEY, M.D., St. Paul, Minn., to Miss Martha L. Rich of Hastings, Minn., recently.

HENRY B. SPRUANCE, M.D., to Miss Natalie Porter Simpson, both of Wilmington, Del., December 4.

HARVEY FIELD NEWHALL, M.D., Lynn, Mass., to Miss Marie Louise Hixon of Boston, November 6.

WILLIS J. KIRKBRIDE, M.D., Fountain, Mich., to Miss Zola Pullman of Freesoil, Ohio, recently.

RUSSELL R. BURT, M.D., Terre Haute, Ind., to Miss Leah Pinter, at Brazil, Ind., December 4.

MELVILLE SILVERBERG, M.D., to Miss Augusta Abenheim, both of San Francisco, December 2.

JOHN H. COOPER, M.D., Topeka, Kan., to Miss Bess Powers of Portis, Kan., November 29.

## Deaths

**William James Herdman, M.D.** University of Michigan, Department of Medicine and Surgery, Ann Arbor, 1875; a member of the American Medical Association; in 1896 chairman of the Section on Medical Jurisprudence and Neurology; a member and ex-president of the American Electro-therapeutic Association; a member of the American Academy of Medicine and once a member of the council; a member of the faculty of the University of Michigan Department of Medicine and Surgery since 1875, where he served successively as demonstrator of anatomy from 1875 to 1889, as professor of pathologic anatomy from 1890 to 1892, as professor of practical anatomy from 1882 to 1890, and thereafter as lecturer on medical jurisprudence in the law department and as professor of diseases of the mind and nervous system in the department of medicine and surgery; one of the most prominent neurologists and electro-therapeutists of America; a prolific writer on educational electro-therapeutics and medical topics; chief surgeon of the Ann Arbor Railroad; died at a private sanitarium in Baltimore, December 14, a few days after a surgical operation, aged 58.

**Charles C. Bradley, M.D.** Bellevue Hospital Medical College, New York City, 1867; a member of the American Medical Association, Iowa State Medical Society and Delaware County Medical Society; a member of the One Hundred and Thirty-sixth New York Volunteer Infantry during the Civil War; surgeon of the Illinois Central Railroad, and for almost 40 years an esteemed and successful practitioner of Eastern Iowa, died at his home in Manchester, December 8, from general anasarca, after an illness of several weeks, aged 64.

**William Meisburger, M.D.** University of Buffalo, Medical Department, 1887; a member of the American Medical Association, the Erie County Medical Society and the Roswell Park Medical Club; for two years house surgeon at the General Hospital, Buffalo, and then for about four years first assistant physician at the Milwaukee Hospital for the Insane, Wauwatosa, Wis., died at his home in Buffalo, N. Y., December 8, after an illness of a year, aged 41.

**William Cunningham, M.D.** Saginaw Valley Medical College, Saginaw, Mich., 1897; health officer of Bay City and formerly mayor; at one time publisher of the Alpena *Evening Echo*; a land commissioner in Oklahoma and United States deputy marshal in the west, and a graduate of the law department of the University of Michigan, died at his

home in Bay City, Mich., from heart disease, after a prolonged illness, aged 50.

**John Fairley Ashcraft**, an undergraduate at the Hospital College of Medicine, Louisville, in the class of 1907, but licensed to practice by the Board of Medical Examiners of Arkansas in 1906, and in practice for only about two months, died at the home of Dr. W. S. Steward, with whom he was associated in practice, at White Oak, Ark., October 26, from acute yellow atrophy of the liver, after an illness of 12 days, aged 25.

**DeWitt C. Howell, M.D.** University of Michigan, Department of Medicine and Surgery, Ann Arbor, 1881; of Onaway, Mich.; for many years chief surgeon of the Detroit & Mackinac Railway; a member of the American Medical Association, and one of the most prominent practitioners of Michigan, died at Harper Hospital, Detroit, November 22, from cerebral hemorrhage, following an operation for malignant disease of the stomach, aged 51.

**George Frederick Townsend, M.D.** Jefferson Medical College, Philadelphia, 1858; a practitioner of medicine in St. Anthony, Minn., in 1859; a member of the school board and supervisor of schools of Minneapolis; for several years government physician to the Chippewa Indians; more recently city physician of Calais, Maine, died at his home in Calais, December 3, from pneumonia, after an illness of two days, aged 72.

**Sylvester W. Turner, M.D.** Medical Institution of Yale College, New Haven, Conn., 1846; a member of the American Academy of Medicine; state examiner for the Yale Medical School from 1873 to 1876; chairman of the board of directors of the Chester Public Library, and one of the oldest practitioners of Connecticut, died at his home in Chester, December 9, from senile debility, aged 85.

**Henry Lawrence Sheldon, M.D.** College of Physicians and Surgeons in the City of New York, 1851; assistant surgeon United States Navy from April 17, 1856, to July 5, 1861, and assistant surgeon United States Army from July 26, 1861, to July 1, 1886, when he resigned, died at Lakewood, N. J., September 28, from cerebral hemorrhage, after an illness of three days, aged 74.

**Eugene Brooks, M.D.** Baltimore Medical College, 1894; a member of the American Medical Association; major and surgeon of the National Guard of N. C., assigned to the Third Infantry, and state grand regent of the Royal Arcanum, and a prominent practitioner of Reedsville, N. C., died at his home December 1, from pneumonia, after an illness of three days, aged 33.

**Charles I. Hoffman, M.D.** Jefferson Medical College, Philadelphia, 1870; a member of the Carbon County Medical Society, the Lehigh Medical Society and the Medical Society of the State of Pennsylvania; formerly poor director of Carbon County, Pa., and school director of Wetherly, died at his home in Lebanon, Pa., November 27, aged 59.

**A. M. Gustave de Monsabert, M.D.,** Tulane University of Louisiana, Medical Department, New Orleans, 1902; a member of the American Medical Association and of the Louisiana State Medical Association; a practitioner of Windom, St. Martin's Parish, La., died suddenly in New Orleans, November 12, from angina pectoris, aged 36.

**Augustus C. Bournonville, M.D.** Jefferson Medical College, Philadelphia, 1847; who was in charge of the hospitals of Philadelphia during the Civil War, and later was connected with St. Joseph's and Jefferson hospitals, died at his home in Philadelphia, from heart disease, September 3, after a long illness, aged 79.

**Alfred Edward Meyer, M.D.** College of Physicians and Surgeons in the City of New York, 1893; a member of the Alumni Association of the City Hospital, and assistant in clinical surgery in the New York Policlinic, died at his home in New York City, December 5, after a prolonged illness, aged 40.

**Daniel Charles McLaughlin, M.D.** Department of Medicine of the University of Pennsylvania, Philadelphia, 1905; resident physician at the Philadelphia Hospital, died at his home in Philadelphia, from tuberculosis, December 6, after an illness of several months, aged 25.

**Henry Cotton Jones, M.D.** Worcester (Mass.) Medical College, 1856; said to have been the oldest practitioner of Westchester County, N. Y.; a member of the national and county homeopathic medical societies, died at his home in Mount Vernon, December 4, aged 73.

**Charles R. Taylor, M.D.** University of Louisville, Medical Department, 1889; local surgeon for the Louisville & Nashville Road at Brownsville, Tenn., and a member of the board of health of Haywood County, died at his home in Brownsville, November 29.

**Isaac Campbell Anderson, M.D.** Hospital College of Medicine, Louisville, 1896; died at his home in Gate City, Va., December 5, from hemorrhage, two days after the severing of an artery in his right arm, said to have been accidental, aged 48.

**John W. McConnell, M.D.** Medical Department, Arkansas University, Little Rock, 1884; local surgeon of the Rock Island Railroad at Booneville, Ark.; a member of the city council, died suddenly in Booneville, from heart disease, November 26, aged 51.

**August B. Storch, M.D.** Medical Department of the University of Iowa at Keokuk, 1863; surgeon of the Estes Home Hospital, Keokuk, during the Civil War, died at his home in Washington, D. C., November 30, after an illness of 16 months.

**Benjamin Harris, M.D.** Miami Medical College, Cincinnati, 1888; formerly of Antigo, Wis., was shot by Amasa C. Campbell of Antigo, in a law office in Chicago, December 7, and died from his injuries two days later, aged 45.

**Alfred Wild Gardner, M.D.** College of Physician and Surgeons in the City of New York, 1890; died at his home in New York City, December 10, from thrombosis consequent on an operation wound, aged about 45.

**Morris Frasee, M.D.** Medical Department of the University of Iowa, at Keokuk; one of the best known practitioners of Indian Territory, died at his home in Vinita, November 6, from cerebral hemorrhage, suddenly, aged 69.

**Alston Jones Whitfield, M.D.** Tulane University of Louisiana Medical Department, New Orleans, 1883; died at his home in San Luis Potosi, Mexico, August 15, from pleurisy after an illness of four days, aged 46.

**Livingston L. Dexter, M.D.** Bellevue Hospital Medical College, New York City, 1863; a resident of Wapello County, Iowa, for forty years, died on his farm south of Ottumwa, November 25, from asthma, aged 72.

**Steven D. Gustine, M.D.** Tulane University of Louisiana, Medical Department, New Orleans, 1898; coroner of Jefferson parish, La., died at his home in Kenner, from an overdose of poisonous medicine, November 24.

**Allen W. Fitts, M.D.** Louisville (Ky.) Medical College, 1878; of Charlotte, N. C., was accidentally shot while hunting, November 22, in Sharon Township, Mecklenburg County, and died a few hours after, aged 54.

**E. R. Bacon, M.D.** Chicago Medical College, 1873; a school director of Lowell, Ind., for 11 years and for 13 years a member of the local pension board, died at his home in Lowell, recently, from nephritis.

**Philip L. Baillargeon, M.D.** Detroit (Mich.) College of Medicine, 1897; formerly of Albuquerque, N. M., died in Los Angeles, Cal., November 27, from rheumatic endocarditis, after an illness of one month.

**George S. Hull, M.D.** New York Homeopathic Medical College and Hospital, 1872; medical examiner for Bristol, Conn., died at his home in Bristol, December 4, from nephritis, after a long illness, aged 59.

**Andrew Jackson Hayslett, M.D.** Jefferson Medical College, Philadelphia, 1858; a surgeon in the Confederate service during the Civil War, died at his home in Lexington, Va., December 7, aged 77.

**Joseph Francis Quinn, M.D.** Long Island College Hospital, Brooklyn, N. Y., 1885; a retired practitioner of Brooklyn, died at his home in that city, November 26, after a brief illness, aged 41.

**Felix Grundy Sitton, M.D.** St. Louis Medical College, 1864; a veteran of the Mexican War, and the oldest practitioner in Boone County, Mo., died at his home in Ashland, December 2, aged 84.

**John David Thorley, M.D.** Jefferson Medical College, Philadelphia, 1871; died at his home in Harrisburg, Pa., November 12, from tuberculosis, after an illness of six years, aged 58.

**John Henry Trent, M.D.** Long Island College Hospital, Brooklyn, 1876; died at his home in Brooklyn, December 6, from pneumonia, after an illness of one week, aged 60.

**Alpheus Toms, M.D.** Medical College of Indiana, Indianapolis, 1872; a veteran of the Civil War, died at his home in Goshen, Ind., from epilepsy, December 7, aged 65.

**Charles Manning Rust** (Examination, Massachusetts), of Winchester, Mass.; a veteran of the Civil War, died in a sanatorium, November 23, after a long illness, aged 61.

**Jacob Huggins, M.D.** Department of Medicine of the University of Pennsylvania, Philadelphia, 1860; died at his home in Newberne, Ala., November 21, aged 80.

**Ira P. Coller, M.D.** Michigan College of Medicine and Surgery, 1903; died at his home in Detroit, December 2, from septicemia, after a long illness, aged 41.

**Cornelius Hogan, M.D.** Hahnemann Medical College and Hospital, Chicago, 1882; died at his home in Chicago, December 7, after an illness of two weeks.

**Wilson M. Ligon, M.D.** Medical College of Georgia, Augusta, 1853; died at his home near Riddle's Bridge, Cleburne County, Ala., December 2, aged 77.

**William J. Luck, M.D.** Medical College of Virginia, Richmond, 1857; died at his home in Middleburg, Va., December 3, from senile debility, aged 71.

**John J. Rooney, M.D.** Long Island College Hospital, Brooklyn, 1897; of Coney Island, died at Nanuet, N. Y., November 24, aged 32.

**George Monroe Emrick, M.D.** Chicago Medical College, 1873; died at his home in Chicago, December 12, from acute nephritis, aged 53.

**Almert H. Blossom, M.D.** Medical College of Ohio, Cincinnati, 1889; of Miamisburg, Ohio, died in Cincinnati, December 1.

**Philander Jacobs, M.D.** Columbus (Ohio) Medical College, 1883; died at his home in Jackson, Ohio, November 29, aged 53.

## Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

### SKELETONS AND MODELS.

Dr. F. W. Simpson, Florissant, Colo., asks for addresses of American firms that prepare skeletons for study. He says: "I am particularly anxious to obtain a first-class human skull that is carefully disarticulated so that each bone of the head can be studied separately and the internal and middle ears exposed in perfect condition. You will do me a great service if you will also provide me with the addresses of firms who turn out first-class anatomic models such as are prepared by Mon. Vasseur Tramond, of Paris, France, only in regard to the skull it is important that the bones are not perforated for contrivances to hold the head together."

### "BAD ENGLISH."

COLUMBUS, OHIO, Nov. 12, 1906.

*To the Editor:*—It seems to be the universal tendency of busy Americans to eliminate superfluous letters and also superfluous words, and possibly the tendency is not, on the whole, a bad one. The present wave of spelling reform emphasizes the desire of the people to eliminate superfluous letters. When a doctor says that his patient has "no *temperature*" (which was criticised by Dr. W. W. Keen in THE JOURNAL, Nov. 10, 1906), the expression grates on one's ears and is clearly improper, and yet we all know what is meant and it serves to eliminate at least two words. So far as my own observation goes this special elimination is of comparatively recent origin, but I think it is growing in popularity and very likely will finally be accepted as proper.

I have noticed for a good many years the growing use of the word "case" as equivalent to "patient." One sees this constantly in print, and hears it in medical society discussions and in ordinary professional conversation. I am inclined to think that this use of the word has come to stay, and although I have always tried to avoid it, as being perhaps in bad form, I am afraid that it is useless to object. Indeed, I am afraid that those who object have perhaps more to contend with than they anticipate.

The Century Dictionary, as the seventh meaning of "case," gives the following: "A person who is peculiar or remarkable in any respect: as, a queer case," etc. In the Standard Dictionary the third meaning given is: "Med. and Surg.. An example, instance, or condition; sometimes a subject of disease or injury: * * * Two cases are waiting." Whster goes perhaps even further in his third definition: "(Med. and Surg.) A patient under treatment."

According to the authorities, therefore, it would seem that we might even say that "three cases recovered and one died." If we can thus enlarge the use of the word it seems to me it will be a distinct advantage as saving a good deal of unnecessary circumlocution.

J. F. BALDWIN.

ANSWER.—With a scientific training and an education that continually emphasizes the value of precision and simplicity, the physician certainly should be in accord with all rational effort for the elimination of superfluous letters and words. This same training, however, should make the physician careful to have his terms exact. Simplicity should never be secured at the cost of ambiguity. Take our correspondent's first example: Instead of saying "no temperature," which he admits "grates on one's ears and is clearly improper," why not say, "no fever," which is correct, scientific and eliminates more letters than does the objectionable phraseology defended by him. The English language is embellished with a wonderful labyrinth of enlarged meanings, perplexing to the child and to the foreigner, but often delightful in their possibilities for the imagery of the poet and the subtleties of the humorist, but it is certainly well to draw the line against metonymy and synecdoche, in scientific writing. The commendable endeavor of anatomists to have the scientific world decide on one name for each structure, instead of using many synonyms, is an illustration of the need of the times. Why not simplify this word "case" by restricting its use to what it means in medicine—the clinical unit presented by patient, history and findings? Let us avoid making one word do duty in a confusing number of different situations. When "case" is used for a person, it should be as a figure of speech. We all know the patient who seems to be a "case"—perhaps because of the rarity of his disease, or perhaps because he presents a typical case. He bears the earmarks of inherited predisposition, the imprint of poor environment, and—in the imagination of the physician, completely absorbed in studying him—there is plainly visible in the background the confirmation obtained by stained sections secured after autopsy. All these things make up a "case" that overshadows the ego of the individual. In such a patient, the word "case" may be used as a figure of speech, but if so, let it only be in such cases in a colloquial way and not in scientific writing.

## The Public Service

### Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, week ending Dec. 15, 1906:

Kirkpatrick, Thos. J., asst.-surgeon, granted ten days' leave of absence.

Brooks, Wm. H., asst.-surgeon, arrived at Newport News, Va., from Cuba, on 30 days' leave of absence.

Shimer, Ira A., asst.-surgeon, reports arrival in Washington, D. C., from duty at Ancon, Canal Zone, Panama.

Carter, Wm. F., surgeon, leave of absence extended 30 days.

Clark, John A., asst.-surgeon, reports for temporary duty at Fort Oglethorpe, Ga., Dec. 9, 1906.

Lamson, Theo., asst.-surgeon, ordered to Fort Bliss, Texas, for duty.

Harris, Jesse R., asst.-surgeon, ordered to Fort Assiniboine, Mont., for duty, and granted 20 days' leave of absence.

Brown, O. G., asst.-surgeon, ordered to Fort Robinson, Neb., for duty.

Burkart, John L., contract surgeon, relieved from further duty at Fort Sheridan, Ill., and ordered to Fort Wayne, Mich., for duty.

Hodson, Thomas G., contract surgeon, relieved from duty at Fort Wayne, Mich., and ordered to Fort Meade, S. Dak., for duty.

Hammond, William G., dental surgeon, granted an extension of one month to his leave of absence.

Stone, Frank P., dental surgeon, left Fort Sam Houston, Texas, and arrived at Fort Clark, Texas, for duty.

Long, Charles J., dental surgeon, ordered for temporary duty to Fort Assiniboine, Mont., 40 days; Fort William Henry Harrison, Mont., 20 days; Fort Missoula, Mont., 30 days; Fort Yellowstone, Wyo., 30 days; Fort Keogh, Mont., 30 days; Fort Lincoln, N. Dak., 30 days.

### Navy Changes.

Changes in the Medical Corps, U. S. Navy, for the week ending Dec. 15, 1906:

F. M. Furlong, surgeon, detached from the Bureau of Medicine and Surgery, and to duty at the Naval Hospital, Boston.

Wright, R. L., surgeon, detached from the *Columbia* and ordered to the Naval Hospital, New York, for treatment.

Johnson, M. E., surgeon, to duty at the Naval Hospital, Norfolk, Va.

Grove, W. B., surgeon, detached from the *Iowa* and ordered to duty at Newport News, Va., in connection with fitting out the *Minnesota* and for duty on board that vessel when placed in commission.

Greer, E. J., surgeon, detached from the *Ohio* and ordered home to await orders.

Lumsden, G. P., surgeon, when discharged by the Naval Medical Examining Board, Washington, ordered home to await orders.

Oman, C. M., P. A. surgeon, detached from the Naval Hospital, Norfolk, Va., and ordered to the *Ohio*.

Bishop, L. W., P. A. surgeon, detached from the *Dubuque* and ordered to the *Iowa*.

Heiner, R. G., asst.-surgeon, detached from the *Scorpion* and ordered to the Navy Yard, Washington, D. C.

Decker, P. T., asst.-surgeon, detached from the Marine Barracks, Washington, D. C.; to duty Naval Hospital, Boston.

Gill, J. E., asst.-surgeon, detached from the Navy Yard, Washington, D. C., and ordered to the *Dubuque*.

May, H. A., asst.-surgeon, detached from the *Iowa* and ordered to the *Indiana*.

Reeves, I. S. K., P. A. surgeon, detached from duty at the Naval Hospital, Boston, and ordered to the *Scorpion*.

Hart, G. G., acting asst.-surgeon, detached from duty at the Marine Recruiting Station, Atlanta, Ga., and ordered to duty with the Marine Recruiting Party at Dallas, Texas.

Traynor, J. P., P. A. surgeon, detached from duty on board the U. S. R. S. *Southery*, Navy Yard, Portsmouth, N. H., and ordered to duty at the Navy Yard, Boston.

Ryder, C. E., Assistant surgeon, detached from duty at the Navy Yard, Boston, and ordered to duty at the Navy Recruiting Station, Omaha.

Chapman, R. B., asst.-surgeon, ordered to duty at the Navy Yard, Mare Island, Cal.

Shaw, H., asst.-surgeon, detached from duty at the U. S. Naval Hospital, Naval Home, Philadelphia, and ordered to duty at the Naval Hospital, Pensacola, Fla.

Grieve, C. C., asst.-surgeon, detached from duty at the Navy Recruiting Station, Omaha, and ordered to duty on the U. S. R. S. *Southery*, Navy Yard, Portsmouth, N. H.

Foster, T. G., asst.-surgeon, detached from the *Chicago* and ordered to the *Charleston*.

Morse, R. T., pharmacist, detached from duty at the Naval Medical School Hospital, and ordered to duty at the Naval Dispensary, Navy Yard, Boston.

### Public Health and Marine-Hospital Service.

List of changes of station and duties of commissioned and non-commissioned officers of the Public Health and Marine-Hospital Service for the seven days ended Dec. 12, 1906:

Williams, L. L., surgeon, detailed as member of Revenue Cutter Service retiring board in Baltimore, Dec. 10, 1906.

Cofer, L. E., P. A. surgeon, temporarily relieved from duty at Honolulu, and directed to report at Ellis Island, N. Y., for temporary duty.

Metheweon, H. S., P. A. surgeon, directed to proceed to Detroit for special temporary duty, on completion of which to rejoin his station at Cleveland, Ohio.

Ameson, J. W. P. A. surgeon, granted leave of absence for seven days from Dec. 3, 1906, under Paragraph 191 of the Regulations.

Frost, W. H., asst.-surgeon, detailed as member of Revenue Cutter Service retiring board in Baltimore, Dec. 10, 1906.

Cleaves, P. H., acting asst.-surgeon, granted leave of absence for twelve days from Dec. 13, 1906.

Hume, Lea, acting asst.-surgeon, granted leave of absence for thirty days from Nov. 27, 1906.

Lyall, R., Acting asst.-surgeon, granted leave of absence for three days from December 8, under Paragraph 210 of the Regulations.

Rodman, J. C., acting asst.-surgeon, granted leave of absence for five days from Dec. 12, 1906.

Wakefield, H. C., acting asst.-surgeon, granted leave of absence for seven days from Dec. 5, 1906, under Paragraph 210 of the Regulations.

Gibson, R. H., pharmacist, granted leave of absence for seven days from Nov. 26, 1906, under the provisions of Paragraph 210 of the Regulations.

Brown, P. L., pharmacist, granted leave of absence for ten days from Dec. 22, 1906.

Thomas, A. M., pharmacist, granted leave of absence for five days from Dec. 1, 1906, under Paragraph 210 of the Regulations.

BOARD CONVENED.

A board of medical officers was convened to meet at Seattle, Wash., on call of the chairman to make a physical examination of an alien reported to have trachoma. Detail for the board: Passed Assistant Surgeon J. H. Oakley, chairman; Assistant Surgeon H. G. Ebert, recorder. Dec. 12, 1906.

### Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Dec. 14, 1906:

SMALLPOX—UNITED STATES.

Florida: Duvall County, Jacksonville, Nov. 25-Dec. 1, 1 case; Madison County, Nov. 25-Dec. 1, 1 case.
Illinois: Nine counties, Oct. 1-31, 88 cases, 3 deaths; South Bend, Nov. 25-Dec. 1, 10 cases.
Iowa: General, Nov. 1-30, 1 death.
Louisiana: New Orleans, Nov. 25-Dec. 1, 2 cases.
North Carolina: Greensboro, Nov. 25-Dec. 1, 1 case.
Ohio: Toledo, Nov. 18-24, 1 case.
Utah: Salt Lake City, Nov. 1-30, 1 case.
Washington: Spokane, Nov. 25-Dec. 1, 1 case.
Wisconsin: Milwaukee, Nov. 18-Dec. 1, 26 cases.

SMALLPOX—FOREIGN.

Africa: Cape Town, Oct. 23-27, 2 cases.
Canada: Nova Scotia-Cumberland County, Nov. 5, epidemic.
Ecuador: Guayaquil, Nov. 1-18, 23 deaths.
France: Paris, Nov. 18-24, 8 cases.
India: Calcutta, Oct. 21-27, 5 deaths.
Italy: General, Nov. 15-22, 5 cases: Milan, Nov. 9-15, 1 case.
Mexico: Veracruz, Nov. 18-24, 1 case.
Persia: Chiras, Sept. 1-30, present; Gularroan, Sept. 1-30, present.
Turkey: Constantinople, Nov. 12-18, 1 death.

YELLOW FEVER.

Cuba: Havana, Dec. 5, 3 cases; Cruces, Dec. 5-11, 3 cases.
Ecuador: Guayaquil, Nov. 1-13, 4 deaths.
Mexico: Veracruz, Nov. 20-26, 1 case.
West Indies: Barbadoes, Dec. 7, 1 case, on S. S. *Maracaibense*.

CHOLERA.

India: Bombay, Nov. 7-13, 3 deaths; Calcutta, Oct. 21-27, 28 deaths; Rangoon, Oct. 28-Nov. 3, 2 deaths.

PLAGUE.

Egypt: Alexandria, Nov. 4-12, 2 cases; Minieh Province, Nov. 4-11, 1 case; Port Said, Nov. 4-11, 2 cases, 2 deaths; Suez, Nov. 1-15, 1 case, 1 death.
India: Calcutta, Oct. 21-27, 10 deaths.
Japan: Formosa, general, Oct. 1-31, 32 cases, 23 deaths.
Mauritius: Oct. 19-Nov. 3, 50 cases, 39 deaths.

## Society Proceedings

### COMING MEETINGS.

American Association of Anatomists, New York City, Dec. 27-29.
Am. Laryn., Rhin. and Otol. Soc., Providence, R. I., Jan. 8, 1907.

### NINTH OHIO DISTRICT MEDICAL SOCIETY.

*Annual Meeting, held at Ironton, Nov. 8, 1906, in Joint Session with the Central Tri-State Association.*

The President, Dr. Charles Parker, in the Chair.

#### Officers Elected.

The following officers were elected for the ensuing year: President, Dr. J. L. Gahm, Jackson; secretary-treasurer, Dr. J. S. Rardin, Portsmouth; censor, Dr. L. F. Rousch, Pomeroy.

Welston was chosen as the next place of meeting.

#### Life Insurance Fees.

A committee, composed of Drs. L. D. Allard, A. Robinson, J. S. Rardin and John E. Sylvester, was appointed to draft suitable resolutions relative to the reduction of fees by life insurance companies, and their report was adopted, as follows:

Whereas, A number of the American life insurance companies have recently made under the plea of economy, a reduction in the fees paid their medical examiners, and

Whereas, Recent official investigations of these companies have shown astounding extravagancies in the expenditure of the policy holders' money and that these investigations have shown no shadow of misconduct in any of their medical departments, and,

Whereas, Many fraternal beneficial societies in general have provided ridiculously small fees for most comprehensive examinations, and

Whereas, The stability and integrity of any life insurance organization is directly dependent on its medical department, requiring the highest professional skill and judgment and

Whereas, A skilled and capable physician can not afford to make a complete physical examination and detailed report of an applicant, including urinalysis, for a fee less than five dollars, therefore be it

*Resolved*, By the Ninth Ohio District Medical Society, in annual session, that it views any reduction in fees for complete physical examination for life insurance, under five dollars as unwarranted and a reflection on the stability of such organization, and that it urges the members of this society to decline to make examinations for a less fee, and that we, one and all, exercise our influence with prospective insurers to select a company that pays a sufficient fee to maintain a capable medical department, thus protecting the policy holders from excessive death rate.

The following papers were read and discussed: "The Early Management in Acute Intestinal Obstruction and the Operative Treatment in Late Cases," by Dr. H. J. Whitacre, Cincinnati; "Mastoiditis," by Dr. C. M. Hams, Huntington, W. Va.; "Pelvic Tumors and Their Differentiation," by Dr. C. F. Kline, Portsmouth; "Appendicitis in Private Practice," by Dr. Lester Keller, Ironton; "Contract Practice and Life Insurance Examinations," by Dr. O. U. O'Neill, Ironton; "Malaria," by Dr. E. M. Foster, Portsmouth.

### SOUTHERN MEDICAL COLLEGE ASSOCIATION.

*Annual Meeting, Held at Baltimore, Dec. 10, 1906.*

The President, Dr. Christopher Tompkins, Richmond, Va., in the Chair.

#### Membership.

All of the medical colleges belonging to the Association were represented except the Fort Worth Medical College and the Medical College of Alabama. The resignation of the University College of Medicine at Richmond, Va., was presented and accepted. The following colleges were elected to membership: Medical Department of Southwestern University, Dallas, Texas; Medical Department of the University of Georgia, Augusta; Medical Department of Epworth University, Oklahoma City, Okla.

The following applications for membership were filed, to be acted on a year hence: College of Physicians and Surgeons, Atlanta; Mississippi Medical College, Meridian, Miss., and the Medical Department of the University of Arkansas, Little Rock.

### Postpone Advanced Standard.

An amendment to the Constitution, looking to the making of the minimum preliminary educational requirement a high school diploma or its equivalent, was carried over until the next meeting.

The meeting was harmonious, and the outlook for further advancement good.

The president, in his address, advocated more rigid preliminary educational requirements. Hereafter the association will meet in connection with the Southern Medical Association in October of each year.

### Election.

Dr. Christopher Tompkins was re-elected president; Dr. G. C. Savage of Nashville, was re-elected treasurer and secretary, and Dr. James B. Bullitt, Jr., of Oxford, Miss., vice-president.

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## AMERICAN PUBLIC HEALTH ASSOCIATION.

*Thirty-fourth Annual Meeting, held in Mexico City, Mex., Dec. 3-7, 1906.*

The President, Dr. F. C. Robinson, Brunswick, Maine, in the Chair.

### LABORATORY SECTION.

Dr. H. W. Clark, Boston, Chairman.

### Leucocyte Content of Milk Drawn from Apparently Healthy Animals.

Drs. H. L. Russell and Conrad Hoffman said that the inauguration of standards based on the number of leucocytes in cow's milk, and the variation which is to be noted in the practice of different laboratories in the application of this method of examination has led to a critical study of the technical methods involved and a study of the variation to be observed in the milk of animals in which no pathologic condition could be noted. From an examination of standards it is evident that there is a wide range in the limits which are at present recognized as indicating the presence of pus in milk. The authors conclude that these limits are arbitrarily chosen, and data are altogether lacking at the present time which warrant the formulation of a proper scientific standard.

They present in this connection the results which they have obtained in the examination of milk drawn from cows showing no discoverable udder lesions, or previous history of garget. These results show that very wide variations are to be observed under natural conditions, and that not infrequently the leucocyte content of such milks (which, from a clinical point of view must be regarded as wholly satisfactory), is much in excess of the chosen standards. Further data are also presented indicating that physiologic leucocytosis may manifest itself in the milk of animals subjected to changes in environmental conditions such as can in no material way affect the wholesomeness of the milk supply.

### The Comparative Value of Bacterial and Temperature Regulations for a City's Milk Supply.

Dr. Francis H. Slack stated that both bacterial and temperature regulations should be enforced in large cities. The bacterial standard is the most comprehensive. Reaching back to the producer, it eliminates unhealthy cows, forces clean production, proper cooling and quick transportation. The temperature regulation requires those who deal in milk, within the city limits, to keep it at a temperature sufficiently low to prevent the multiplication of bacteria.

### Liberation of Formaldehyd from Its Water Solution Through the Agency of Calcium Carbid.

Dr. H. D. Evans added formaldehyd to calcium carbid. It was found necessary to dilute the formalin solution one-half in order to furnish water enough to react with the carbid; the heat produced in the reaction causes the evaporation of the formaldehyd solution. The results of 675 tests of the method with various bacteria shows that good disinfection can be obtained, provided not less than 500 c.c. of formaldehyd solution be used to each 1,000 cubic feet of space to be disinfected.

### The Action of Sunlight on Bacteria, with Special Reference to Bacillus Tuberculosis.

Dr. John Weinzirl said that a large amount of work has been done on the problem of the action of sunlight on bacteria, practically no attention has been given to the question of the action of sunlight on *Bacillus tuberculosis*. The method employed was to rub a suspension of *Bacillus tuberculosis* on strips of sterile glazed paper, expose these to the sun, and subsequently inoculate the strips on egg medium when excellent growths were secured, if the culture was not killed. It was found that *Bacillus tuberculosis* was killed in about ten minutes of direct sunlight. Sunlight evidently possesses a much stronger bactericidal action than has heretofore been supposed and it is, consequently, a more important hygienic factor than it is generally held to be.

### Some New Laboratory Devices.

Dr. B. R. Rickards described an apparatus for shaking and centrifugalizing sputum specimens and a new collecting case for rabies.

### A Study of House Disinfection and Reinfection.

Drs. Stokes and Stubbs attempted to show that reinfection is of less frequent occurrence after disinfection than when disinfection is omitted.

### GENERAL SESSIONS.

Papers dealing with national and international sanitary problems were presented by Dr. Peter H. Bryce of Canada, and Drs. Eduardo Liceaja, Oscar J. Mayer and José Mesa Gutiérrez of Mexico.

### To What Extent Are Infected Mosquitoes Present on Shipboard?

Dr. Alvah H. Doty, New York, said that there can be no doubt that in the period of sailing vessels with their long stay in infected ports in order to secure full cargo, and their subsequent long return trips, infected and non-infected stegomyia frequently existed on shipboard. There is equally good evidence to show that the danger from this has gradually disappeared with the disappearance of the sailing vessel and the appearance of the steamship with the coincident changes in the conditions at foreign ports which formerly favored infection of vessels with the stegomyia. It is still possible for yellow fever to occur on shipboard due to the presence of infected mosquitoes, but it occurs in rare instances only.

### The Diagnosis and Prevention of Yellow Fever.

Dr. Joseph Goldberger, Washington, D. C., called attention to the high percentage of polymorphonuclear leucocytes in yellow fever as compared with dengue. Attention was also invited to the practical bearing of the occasional occurrence of an early intermission in yellow fever. The occurrence of such an intermission in the fever for from three to twelve hours might lead to confusion with malaria, and a case of yellow fever might thus readily escape detection at a quarantine station.

### Other Papers Read.

Papers dealing with various phases of malaria were presented by Drs. Lamicq, Loaeza and Brena, of Mexico.

Papers on tuberculosis were presented by Dr. H. A. Cowing of Indiana, Dr. Jesus Monjaras of Mexico, and Prof. H. L. Russell of Wisconsin.

Dr. Charles Harrington of Boston presented a paper on "The Milk Problem in Massachusetts." Dr. B. H. Stone of Burlington, Vt., read a paper on "The Relation Between Drinking Water and Typhoid Fever in Rural Districts." Dr. Crowder of Chicago read a paper on "Car Sanitation." Dr. Cressy L. Wilbur, Washington, D. C., discussed "The Conditions and Prospects of Vital Statistics in the United States."

The following resolutions were passed:

### Resolutions.

Whereas, A correct registration of births, marriages and deaths is necessary to indicate not only the natural increase of population, but also the measure of the health conditions and the effectiveness of sanitary operations in any country,

Whereas, With the increase in numbers, wealth and age of the populations of the several states and provinces, the necessity for

evidence of births, marriages and deaths in cases of wills, pensions, insurance, crimes, etc., becomes daily of increasing urgency.

Whereas, Comparisons of the health conditions of different countries and districts and climates is only possible through the existence and study of such records.

Whereas, International comity and treaty stipulations not infrequently involve agreements touching the transmission of records relating to the births, marriages or deaths of individuals traveling or residing in foreign countries; and

Whereas, Such registration is imperfect or wholly wanting in some of the states of the countries registered in this Association, therefore, be it

*Resolved*, That the secretary of this association be instructed to transmit a copy of this resolution to the governors and boards of health of such states and provinces urging the desirability of effective legislation on this subject.

Whereas, The American Public Health Association is of the opinion, and has heretofore so expressed itself, that public health matters confronting the four countries embraced in this association can only be adequately administered by extending the powers and duties of their several chief executive and administrative health officers, and

Whereas, This association believes that such questions can only be satisfactorily dealt with by the establishment of a national department of health with a cabinet minister at its head in each country.

Therefore, this association, with a view to prosecute so desirable an end creates a committee consisting of three members from each of the four countries represented in the association and to be nominated by the president, the first-named member for each country to be chairman of that subcommittee and the chairman of the subcommittee of the United States to be its general chairman. This committee shall formulate what in the opinion of the Association should be the extent of the work, powers and duties of a national department of health and the subcommittee of any of the four countries shall take any steps deemed practicable by it to carry out the purpose of this resolution, and to this end be empowered to enlarge its committee as it may deem proper.

The members of the association and their wives were delightfully entertained at several receptions and excursions, among which may be mentioned the reception by President Porfirio Diaz and the subsequent excursion to Chapultapec Park.

### Election of Officers.

The following are the newly elected officers of the association: President, Dr. Domingo Orvañanos, Mexico; vice-presidents, Dr. Quitman Kohnke, New Orleans; Dr. R. M. Simpson, Winnipeg; Dr. G. T. Swartz, Providence; secretary, Dr. C. O. Probst, Columbus, Ohio; treasurer, Dr. Frank Wright, New Haven.

Atlantic City, N. J., was selected as the place of meeting for 1907.

## CHICAGO MEDICAL SOCIETY.

*Regular Meeting, held Oct. 24, 1906.*

The President, Dr. George W. Webster, in the Chair.

### Renal Calculi.

Dr. Charles L. Mix discussed the etiology and symptomatology. He said very little is known about the etiology. Renal calculus is not found commonly in children or in the very old. It is found in the period of life between extremes. While Senator maintains that renal calculi occur largely in the poor, many surgeons believe they are more common in the well-to-do or middle classes. Heredity has some bearing. It is held by some writers that a sedentary occupation predisposes to stones. Personally, the author thinks it has nothing to do with it. These calculi are more common in some parts of the globe than in others. They are common in India, quite common in Asia, and common in Egypt. So far as America is concerned, very little can be said with reference to the geographical distribution of renal calculus. It is as prevalent in one part of the country as in another. Phosphatic calculi occur only in alkaline urine; whereas the other types of calculi occur in acid urine. Renal calculi are the products of bacterial action and infection. It is probable that neoplasms of the kidney are capable of giving rise to stones without the media of bacterial action. The incident of stones in cases of neoplasms of the kidney is known. The two things together occur often enough to make one feel that there is probably some pathogenetic relationship between them. In all bacteriemic diseases it is possible for the bacteria to make their way into the kidneys and exert an unfavorable influence on the mucous membrane of the pelvis, give rise to a slight amount of catarrhal exudate, which may in turn serve as the nucleus of a stone. Tuberculosis of the kidney and stone of the kidney are not infrequently concomitant affairs, and it is probable that the nucleus for these stones lies in a blood clot which is surrounded by calcic oxalate, uric acid or urates. In the majority of instances he thinks it may be accepted as true that the bacterial origin of renal calculus is really the common and right one, although in a few isolated cases possibly other factors may be the cause of the development of renal calculi.

### Surgical Treatment of Renal Calculi.

Dr. Arthur Dean Bevan divided the cases into three groups. First, the cases in which surgical treatment is imperative; second, those in which it is desirable, but not imperative, and, third, those in which it is not desirable. In the first group he includes cases of calculus anuria. These cases are very rare. They present themselves under two general types, the purely obstructive, and the reflex anuria types. In the purely obstructive type there is obstruction of the kidney by calculous disease, or obstruction of the ureter of long standing on one side. Following that, the other kidney becomes involved, with obstruction of the remaining ureter. He has had the opportunity to study three of these cases. They are instances in which absolutely no urine was excreted for a period of days. Individuals with obstructive anuria have lived as long as twenty-one days without excreting a single drop of urine. Practitioners should keep in mind the differentiation between uremia and anuria.

The second type of calculous anuria is reflex anuria. Its existence has been denied by some, but personally he has no doubt that it really exists. The clinical picture is something like this: An individual has one healthy kidney, with the ureter of the other kidney obstructed by a calculus, and as a consequence great intrarenal tension develops. The obstructed kidney does not excrete any urine. The opposite kidney may not excrete any urine, except possibly by reflex action, on account of the result of the enormous intrarenal tension upon the affected side. In calculous anuria surgical treatment is imperative. The surgeon should wait in these cases, if possible, forty-eight hours before operating.

In the third group of imperative operations is the condition where we have an obstruction of the ureter on one side, not anuria, because the other kidney is secreting, but where from the evidence we are led to believe that we have an obstruction of the ureter on one side, and where it is possible that if this obstruction continues the integrity of the kidney may be menaced. Here, again, the question of time element is one of considerable importance. He has in these cases waited a week or longer before operating. He would wait longer than he would in a case of anuria, and has been fortunate enough to see that the stone was passed, and that even its own weight has not destroyed the secreting tissue of the kidney.

#### DISCUSSION.

Dr. James B. Herrick said that he knew few diseases which present greater difficulties in making a positive diagnosis than renal calculus. Physicians not infrequently see cases with indefinite pains in the back, and even after the most careful and painstaking examination they are not able to tell whether or not a calculus is present. The differential diagnosis between gallstone colic and the pain of ulcer and that of renal colic is not always easy. Even though pain originates in the kidney, it is difficult in many instances to be sure that the pain and hematuria are associated with and caused by a renal calculus, so that it is only by a most painstaking examination and careful observation of patients that physicians are able to exclude such diseases as tuberculosis of the kidney, Dittl's crises, or obscure cases of so-called essential renal hematuria. The *x*-ray is a great aid to diagnosis. In fleshy individuals, in patients with uric acid stones, with very small calculi, he can readily see how the *x*-ray would fail to reveal them, and in some cases where he has been morally certain that a patient had calculus, the *x*-ray has not shown it, and the diagnosis has only been a presumptive one. Infection of the urinary tract, particularly of the pelvis of the kidney, was mentioned as a possible factor in causing stone.

Dr. Arthur R. Elliott said that there is no doubt, from a therapeutic standpoint, that a case of well-formed calculi

belongs to the surgeon, as there is nothing to be accomplished by solvent treatment in such cases. Until recently, he shared the belief and confidence in the results of *x*-ray examination that were expressed by Dr. Bevan; but within the last eighteen months he has had two cases operated on by surgeons of repute, which were positively diagnosed both from the urinary examination and by *x*-ray examination at the hands of a competent radiographer as instances of renal calculi, although a thorough exploration of the kidney in both cases failed to reveal any stone or stones. He referred to the urinary conditions which cause calculous formation. He made a plea for careful systemic treatment in the prophylaxis of these cases.

DR. CARL WAGNER reported a case in which a clinical diagnosis was made of stone in the kidney, but at the operation it was found that a long, hard appendix was the cause of the trouble. It was found hanging over the brim of the pelvis. The appendix was removed, also a stone which was found in one of the calices that acted as a ball-valve and had obstructed the ureter at its exit from the kidney.

## Miscellany

**Bier's Technic for Spinal Anesthesia.**—A Berlin exchange, the *Med. Klinik*, Nos. 37 and 43, collected the experiences of a number of prominent surgeons who have used spinal anesthesia in hundreds of cases. Kümmel has applied spinal anesthesia in 700 cases, and has been particularly pleased with it in removal of kidney or appendix. With laparotomies the occasional annoying vomiting interferes with the success of the operation. He adds that it is contraindicated by septic processes which might spread to the meninges in consequence of the disturbance from the injection. Bier closed the symposium with an article describing his exact technic, his experience including more than 1,000 cases. The patient is seated on the side edge of the operating table, his legs hanging straight down, his head bent forward, the spine curved as in pronounced kyphosis but straight, without sideward bending. The skin of the lumbar region is rubbed with ether and bichlorid solution, and the patient is told that he will feel a prick in his back, but must keep sitting still. A Record syringe, graduated, with a capacity of 10 c.c., and the cannula with a short, slanting point and guide, are first boiled and then kept in alcohol. Just before using, the instruments are transferred to a solution of boric acid to remove the alcohol. The fused tube holding the fluid to be injected lies in the same solution. The tube contains the proper amount of the anesthetic, dissolved in 1 c.c. The neck of the tube is broken off and its contents are drawn up into the syringe. The piston is then cautiously pushed down until all excess over 1 c.c. is evacuated. The loaded syringe is then laid on a sterile towel and beside it the cannula and guide. The operator covers his disinfected hands with a towel and stretches it taut between the two crests of the ilium. The horizontal edge of the towel crosses the spinous process of the fourth lumbar vertebra. From this point the spinous processes are palpated and the injection is made between the second and third lumbar vertebræ, after spraying the skin with a little ethyl chlorid. The cannula with its guide is inserted directly in the median line, perpendicular to the spine, with its tip pointing slightly upward, toward the head. As soon as it has entered firmly into the interspinous ligament the guide is withdrawn and the cannula is pushed slowly onward. If it encounters bone, showing that it is in contact with a vertebra, it is drawn out a little and the direction slightly altered, pointing the tip a little up or down, but keeping always in the median line. If elastic resistance only is encountered, the needle is pushed cautiously farther in until cerebrospinal fluid emerges from it. If it comes hesitatingly and scantily, he waits until it flows more freely, turning the cannula or pushing it in a little or pulling it slightly out to facilitate the flow of the fluid. The loaded syringe is then connected with the needle, without moving the latter. The piston is drawn slowly back and cerebrospinal fluid is aspirated into the anesthetic already in the syringe, which mixes with it, and the whole is then slowly injected into the spinal canal. Then the syringe and needle are rapidly withdrawn and the patient is placed in the dorsal decubitus. To induce anesthesia up to the arms the anesthetic can be dissolved in a large amount of fluid (6 to 10 c.c.). As admixture of water causes violent after-effects, he uses only the patient's own cerebrospinal fluid, injecting the whole, and has thus been able to perform operations even on the arms without pain. The anesthesia can also be made to extend higher by raising the pelvis, or both methods can be combined. He has already learned that major operations on the arms, such as amputations, and amputation of the breast, can be done under spinal anesthesia without pain, as he has frequently had occasion to establish. Kader has even performed operations on goiters under it. Testing the reflexes is a good way to determine the extent of the analgesia. The anesthesia generally extends as far as the reflexes are abolished after one or two minutes. As a rule, sufficient dilution of the anesthetic ensures high anesthesia even without raising the pelvis. The dangers of spinal anesthesia are threefold: 1, From the use of improper substances; 2, from overdosage; 3, from defective technic. Stovain has been abandoned by Bier on account of cases of subsequent paralysis. He is convinced that the instances of paresthesia, hyperesthesia, anesthesia and paralysis have been due almost invariably to blunders in puncturing and blunders in injecting. Consequently he urges strict adherence by the novice to the above technic. After he has had experience he may improve on it. The principal rules to be observed are: Never to inject the anesthetic until the cerebrospinal fluid is escaping in a rapid series of drops or in a jet. If this can not be secured by twisting or moving the tip of the cannula a little, it is better to withdraw it and make the puncture at another point. A final rule is that spinal anesthesia is not suited for out-patients, as the patient should remain in bed for at least twenty-four hours afterward. Bier's cautiousness is proverbial in Germany; although he was the one who first revived Corning's spinal injections, he warned against spinal anesthesia as too dangerous until the improvement in the technic banished these fears. He now concludes his communication with the statement that if the above precautions are observed he considers the possible dangers of spinal anesthesia as very slight.

**Clean Newspaper Advertisements.**—One of the most important and far-reaching questions which is before the general public to-day is the question of unclean advertising by the medical quacks in the daily papers. We have referred to this matter editorially[1] on several occasions. An editorial which appeared in a recent issue of the Cleveland (Ohio) *News* discusses this subject very ably, and we take pleasure in quoting from it. The writer of the editorial referred to says: "The public should demand clean advertising in newspapers. The newspapers should—and sooner or later they must—admit the reasonableness of this demand, and exclude from their advertising columns the filthy and the loathsome. No self-respecting citizen could possibly go about with a pocket full of indecent circulars, dropping one wherever he might call. Such a person would soon find himself regarded for what he was—morally unclean and a disgusting object of general suspicion. Is there any essential difference between such a man and a newspaper that befouls its columns with unclean advertisements? If there is, we fail to see it. It is time that there was a public awakening on this subject, and there is bound to come such an awakening."

"In these progressive days," continues the editorial, "cleanliness is an important watchword in every walk of life. The man or woman who buys goods of a mercantile establishment would not feel an impulse of self-congratulation on receiving soiled and filthy fabrics in response to orders. The proud father of a family would resist, with all the energy of his being, and all the indignation at his command, the delivery at his home of what was purchased as a clean and pure article, yet reeked with the germs of tuberculosis, or some other equally dreaded and loathsome disease.

"There can be no reasonable discrimination between the de-

1. THE JOURNAL, Dec. 1, 1906, p. 1834.

partments of financial investment. If there could be, the verdict would align that which brings moral contamination as of far more evil import than that which contaminates inanimate materials and threatens physical ailment.

"Is it not a fact, then, that the worst menace to the home, the family and the community in which it is received, is the foul newspaper, which, for a financial consideration, will load its columns with the germs of immorality and the filth of mental disease? The newspaper which thrusts unclean goods into the home under cover of friendship, betrays its patron's trust and disgraces its field. The foul advertisement is a crime against the home, an insult to the legitimate advertiser whose announcement of creditable business must be associated, in the same columns, with what is foul and disgraceful.

"When the public fully grasps the enormity of the offense committed by a newspaper in spreading before its readers the disgusting announcements of certain medical advertisers, the newspaper agency for the dissemination of foulness will be obliterated. Throughout the country there has been a recent general awakening on this subject. Of all the things in the world which should be free from filth is the daily visitor to the home. Any man thrusting an obscene circular into the hands of a young woman would be kicked into the ditch by her enraged father. But such is the inconsistency of human nature that that same father would, perhaps, subscribe for a newspaper for his own and his daughter's reading which contained identically the same objectionable matter. Why? Because he has not thought about it. When he does think about it he will stop it."

**Treatment of Cholera and Various Bacterial Affections with Fuller's Earth.**—THE JOURNAL mentioned some time ago Stumpf's preliminary communication in regard to the remarkable action of finely pulverized clay in various bacterial affections. He has now published the detailed report of his experiences under the title: "A Reliable Method of Curing Asiatic Cholera and Severe Infectious Cholera Morbus, and the Importance of Bolus alba (Kaolin) in the Treatment of Certain Bacterial Affections." J. Stumpf is professor of legal medicine at Würzburg, and his attention was early attracted to the possible disinfecting virtues of clay by his observation that cadavers exhumed after being buried in a clay soil were always in a remarkable state of preservation in comparison to those in other soils. He has been using the official, finely pulverized bolus alba or porcelain clay in his practice during the last eight years, with constantly increasing satisfaction. It seems to owe its efficiency in bacterial affections to its action in depriving the bacteria of a suitable culture medium, while mechanically burying them alive, as it were, and separating them from the mucosa and other tissues by a protecting, comparatively impermeable coating. He found it the best remedy he could use for extensive septic wounds, putrid leg ulcers and the like. The odor was at once abolished and the inflammatory swelling reduced. He refers to the fact that bacterial action is merely slow combustion, and nothing arrests combustion more effectually than a smothering layer of earth or clay. Dry clay has also the property of absorbing the moisture from organic substances buried in it, and they become mummified. Stumpf experimented on himself to determine the absolute harmlessness of the finely pulverized clay taken internally in large amounts, and found that it was perfectly tolerated, as is also evident from the experience of the "earth eaters" of the tropics. He administered it in cases of cholera morbus with the result that the colics and tendency to vomit were at once arrested and the patients practically cured. The effect in the few cases of cholera in which it was tried was almost instantaneous. The symptoms were arrested and the patients fell into refreshing sleep. There was no mortality at the points where the bolus treatment was used, while the mortality was high elsewhere during the last epidemic. The condition for its therapeutic success is that no food nor fluids, except water, be taken for eighteen hours, as otherwise the bacteria are provided with culture media in which they can proliferate. The dose is 125 gm. of the most finely pulverized bolus alba, poured on top of half a tumblerful of water. After the powder has sunk to the bottom of the glass it is thoroughly stirred in with a spoon and the whole amount is drunk at once or within a few minutes. Infants are given 30 gm. of the bolus in 70 to 100 gm. water, and older children 60 gm. in 150 gm. water. After an interval of three hours the same dose is repeated. There need be no fear of taking too much as his long continued experiments have never shown any untoward by-effects. Recent experiments with dogs have demonstrated that they could tolerate large doses of arsenic when given in combination with 400 gm. bolus. These results encourage him in suggesting that the bolus might prove effectual in clinical cases of poisoning with metals or acids. He does not advise the use of the bolus in ordinary diarrhea, due to errors in diet, the ameba, etc., but advocates it in the severe forms of cholera morbus, Asiatic cholera, etc., and for putrid septic lesions. He has had practically no experience with typhoid patients, but thinks that the bolus is equally indicated here, given in time to protect against ulcerations.

**Preventive Measures Against Malaria in Italy.**—Dr. A. J. McLaughlin, in *Public Health Reports*, gives an interesting account of the measures taken against malaria in Italy from very early times.

The existence of malaria in Italy at a very early date is shown by a passage in Marcus Varro's "Re Rustica," who advises never to build houses in a malarial location, because in summer minute animals invisible to the naked eye enter the body from the air, producing terrible diseases. Malaria has been thought to bear the relation to the hydrographic condition of the soil because always associated with stagnant water.

The campaign against malaria dates back several centuries. In the time of the Spanish viceroy, Don Pedro de Toledo, the eminent Lettieri planned to reclaim the immense plain that extends from the foot of the Appenines to the gulf of Gaeta, between Miseno and the mouth of the Volturno. About a century ago a special bureau was created in Naples to study and execute works for reclaiming the malarial marshes. Their example was soon followed in all parts of Italy, sometimes with the aid of special laws. Concerted action was secured by the law of March 22, 1900. Works of special advantage to agriculture or hygiene are carried out by the government which, however, may delegate its rights to the province, commune, or societies of landholders. Other measures are executed and maintained by the proprietors.

The work for the redemption of marsh land resolves itself into an effort to control the course of the water. Efforts are made to prevent rivers overflowing their banks and to raise the level of the low land.

With the progress of knowledge of the disease, especially of its etiology, the necessity for further legislation arose. To avoid the high price of quinin the manufacture and sale was restricted by law (Dec. 23, 1900) to the government. It now costs about 48 cents an ounce to the public for bisulphate. The law of Nov. 2, 1901, combining the various measures for stamping out the disease provides for:

First—The determination of "malarial zones." A malarial zone is a territory in which several cases of malaria have been contracted, coincident with the presence of malaria bearing mosquitoes and of stagnant water.

Second—The administration gratis of quinin by employers to all employés working in a malarial zone. Physicians are obliged to report all cases of malaria and all deaths from pernicious malaria. In cases of doubt a postmortem examination must be made.

Third—Mechanical protection against mosquitoes. All habitations and buildings used by people in a malarial zone must be protected against the entrance of aerial insects by netting of wire or cloth over every aperture communicating with the exterior. The entrance shall be protected by a double door, closing automatically, and so arranged that the second door can not be opened except when the first door is closed. Chimneys are protected by caps and gratings of iron wire. These regulations are enforced from June 1 to December 1.

All the forces of the government are coördinated in this work. Valuable support and collaboration are received from the Society for the Study of Malaria and the Red Cross Society.

Although decreasing rapidly, malaria continues to be the

greatest affliction with which the Italian sanitary authorities have dealt, except trachoma. The energetic measures being carried out are bound to have, finally, the result hoped for, the extinction of malaria as an epidemic disease in Italy.

**Scientific Preparation for Professional Work.**—In an address delivered at the University of Nebraska last June, J. H. Long, of Northwestern University, stated that for some reason the idea prevails in most of the smaller colleges, and in some universities, that medical school chemistry is at best a weak imitation of science and that, therefore, any kind of an equivalent for it will be accepted. At one time there was some justification for this belief, but this is no longer warranted by the facts. Teachers of chemistry in the larger institutions are working hard to correct the false impression that chemistry taken as a college elective is a fair equivalent for the freshman chemistry as it should be given in a medical school. Long states that he has a well-grounded prejudice against elective chemistry based on 25 years' observations, and that in Northwestern University he has always urged the retention of general chemistry as a freshman study, and has struggled against the routine acceptance of credits given after easy elective courses. While he does not believe that first-year chemistry belongs in a medical school, he has continued to give the course, and he has heard other teachers say that they did the same thing. He said that students not making a specialty of organic chemistry can not be expected to become masters of the details of many of the synthetic preparations now offered to physicians, but that knowledge sufficient to detect some of the most glaring frauds can be obtained in the time available if this is properly applied. Many physicians knowing the danger attending the use of acetanilid will not prescribe it except in small doses, but the cunning manufacturer in advertising his product escapes the prejudices of the physicians by stating that the preparation contains phenylacetamide. Long states that there are instances on record of physicians ordering tablets containing acetanilid and at the same time ordering others containing phenylacetamide. As another example he mentioned the use of the term trimethylxanthin in place of caffein. This term, he said, is strictly correct, but the physician may not know that it is another name for caffein. These illustrations, Long said, are sufficient to show that the progress of internal medicine depends to a great extent on the physician's knowledge of chemistry. It is not enough, he declared, that the student complete ordinary routine courses in college chemistry in order to take up the new physiologic chemistry and follow such of its applications as have a bearing on scientific medicine; something more than this is necessary, and may be described as an all-around scientific interest. Some of the applications of chemistry are simple, but that chemical knowledge which leads to a comprehensive view of metabolism and other changes dependent on molecular alterations is not simple in the same sense. For this the student will need all his college course can give him, and his chemistry must be reinforced, or rather preceded, by courses in mathematics, physics and physiologic botany.

**Acetylene Gas in Treatment of Rebellious Gonorrhea.**—R. Ortega of Monterey, Mexico, announces in the *Gaceta Medica de Mexico*, No. 5, 1906, that he has been much pleased with the results of treating gonorrhea with a germicidal gas. The idea was suggested to him by his success with calcium carbid in the treatment of septic affections of the uterus, and the observation that the large amounts of acetylene gas generated in the organ seemed to do no harm. The gas was evidently eliminated in the respiration, as the breath smelled strong of it, but no injurious by-effects were noticed as the gas thus traversed the body. In treating an old, chronic gonorrheal affection, rebellious to all the usual measures, he became impressed with the possible benefits of a germicidal gas which would penetrate deeper into the tissues than any fluids. He therefore applied acetylene gas, using a Heinrich generator and introducing the gas, filtered through cotton, into the urethra through a rubber tube and nasal douche syringe tip. The urethra became distended as the gas was turned on, and soon after the odor of the gas became evident in the patient's breath. The injection was kept up for half an hour, and was repeated the next day. The patient then left town, but returned in a few weeks, enthusiastic over his "complete cure," and bringing a friend with intractable gonorrhea of long standing to take the "gas treatment." Ortega has had no further opportunity to apply the treatment, but his success in these 2 cases encourages him to urge others to give it a trial.

## Medical Education and State Boards of Registration

### COMING EXAMINATIONS.

OKLAHOMA Board of Medical Examiners, Guthrie, December 26. Secretary, Dr. J. W. Baker, Enid.

OREGON State Board of Medical Examiners, Portland, January 1. Secretary, Dr. Byron E. Miller, "The Dekum," Portland.

COLORADO State Board of Medical Examiners, Denver, January 2. Secretary, Dr. S. D. VanMeter, 1723 Tremont St., Denver.

WASHINGTON State Medical Examining Board, Spokane, January 2. Secretary, Dr. C. W. Sharples, Seattle.

MINNESOTA State Board of Medical Examiners, Old Capitol Bldg., St. Paul, January 2. Secretary, Dr. W. S. Fullerton, St. Paul.

NORTH DAKOTA State Board of Medical Examiners, Grand Forks, January 3. Secretary, Dr. H. M. Wheeler, Grand Forks.

RHODE ISLAND State Board of Health, State House, Providence, January 3-4. Secretary, Dr. Gardner T. Swarts, Providence.

UTAH State Board of Medical Examiners, Salt Lake City, January 7. Secretary, Dr. R. W. Fisher, Salt Lake City.

ARIZONA Board of Medical Examiners, Phoenix, January 7-8. Secretary, Dr. Ancil Martin, Phoenix.

ARKANSAS State Medical Board, State Capitol Bldg., Little Rock, January 8. Secretary, Dr. F. T. Murphy, Brinkley.

NEW HAMPSHIRE State Board of Medical Examiners, Concord, January 8-9. Regent, Dr. H. C. Morrison, Concord.

VERMONT State Board of Medical Registration, Montpelier, January 8-10. Secretary, Dr. W. Scott Nay, Underhill.

WISCONSIN State Board of Medical Examiners, Plankinton Hotel, Milwaukee, January 8-10. Secretary, Dr. J. V. Stevens, Jefferson.

SOUTH DAKOTA State Board of Medical Examiners, Sioux Falls, January 9-10. Secretary, Dr. H. E. McNutt, Aberdeen, S. D.

DISTRICT OF COLUMBIA Board of Supervisors in Medicine, Washington, January 10. Secretary, Dr. Geo. C. Ober, Washington.

ILLINOIS State Board of Health, Great Northern Hotel, Chicago, January 16-18. No applications received after January 5. Secretary, Dr. J. A. Egan, Springfield.

NEW YORK State Boards of Medical Examiners, Albany, January 29-February 1. Chief of Examining Division, Charles F. Wheelock, Albany.

**Texas Eclectic April and October Reports.**—Dr. L. S. Downs, secretary of the Texas Eclectic Medical Board, reports the examinations held at Fort Worth, April 26-28, and Oct. 8-9, 1906.

At the examination held April 26-28 the number of subjects examined in was 12; total number of questions asked, 120; percentage required to pass, 75. The total number of candidates examined was 25, of whom 20 passed and 5 failed. Of those appearing for registration credentials, 13 were registered and one rejected. The following colleges were represented:

| PASSED. College. | Year Grad. | Per Cent. |
|---|---|---|
| Barnes Med Coll | (1905) | 77.6 |
| Eclectic Med. Univ., Kansas City | (1906) | 85.8 |
| Fort Worth University (1906) 75.2, 75.4, 79.3, 80, 82.3, 85.9, 86.3 | | |
| Non-graduates, 75.3, 75.5, 76.3, 76.5, 78, 78.4, 78.5, 79.9, 80, 83.8, 89.6. | | |

| FAILED. | |
|---|---|
| College of P. & S., Dallas | (1906) 65.5 |
| Non-graduates | 43, 61, 61, 69 |

| REGISTERED ON CREDENTIALS. | Number and Year. |
|---|---|
| California Med. Coll., Ecl., San Francisco | (3, 1905) |
| Bennett Coll., Ecl. Med. & Surg., Chicago | (1, 1895) |
| American Med. Coll., St. Louis | (1, 1906) |
| Eclectic Med. Univ., Kansas City | (1, 1905) |
| Eclectic Med. Inst., Cincinnati (1, 1891) (1, 1898) (1, 1904) (1, 1906). | |
| University of Tennessee | (1, 1900) |
| University of Palermo, Italy | (1, 1903) |

| CREDENTIALS UNSATISFACTORY. | |
|---|---|
| Twentieth Century Med. Coll., Oklahoma | (1, 1901) |

At the examination held October 8-9, the number of subjects examined in was 13; total number of questions asked, 130; percentage required to pass, 75. The total number of candidates examined was 6, all of whom passed. Fourteen were registered on presentation of satisfactory credentials, including one old practitioner. The following colleges were represented:

| PASSED. College. | Year Grad. | Per Cent. |
|---|---|---|
| Tulane University | (1905) | 85. |
| Memphis Hosp. Med. Coll | (1904) | 78.5 |
| Gate City Med Coll | (1905) 78; (1906) | 78. |
| Undergraduates | | 77, 78 |

REGISTERED ON CREDENTIALS.

| | Number and Year. |
|---|---|
| California Med. Coll., Ecl., San Francisco (1, 1883) (1, 1895) (1, 1904) (2, 1905) (5, 1906). | |
| Barnes Med. Coll. | (1, 1905) |
| Med. Coll. of Ohio | (1, 1893) |
| Eclectic Med. Inst., Cincinnati | (1, 1906) |

**Ohio June Report.**—Dr. George H. Matson, secretary of the State Board of Medical Registration and Examination of Ohio, reports the written examinations held at Columbus, Cleveland and Cincinnati, June 12-14, 1906. The number of subjects examined in was 9; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 205, of whom 200 passed and 5 failed. The following colleges were represented:

PASSED.

| College. | Year. Grad. | Per Cent. |
|---|---|---|
| Colorado School of Med. | (1896) | 85. |
| University of Iowa | (1906) | 79. |
| Kentucky University | (1904) | 87. |
| Central Coll. of P. & S., Indianapolis | (1905) | 94. |
| College of P. & S., Baltimore | (1906) | 85. |
| University of Maryland | (1906) | 89. |
| Baltimore Med. Coll. | (1905) 81; (1906) | 84. |
| University of Michigan | (1901) 87; (1905) 91; (1906) 89, 92, 94 | |
| College of P. & S., New York | (1906) | 88. |
| Woman's Med. Coll. of Kansas City* | (1887) | 84. |
| University and Bellevue Hosp. Med. Coll. | (1899) | 87. |
| University of Buffalo | (1904) | 93. |
| Toledo Med. Coll. | (1906) 84, 84, 85, 85, 92 | |
| Cleveland Coll. of P. & S. (1905), the grades of 77, 81, 82, 83, 84 and 86 were reached by one each, 87 by three, 88 by four, 89 by three, 90 by one and 91 by two. | | |
| Starling Med. Coll. (1906), the grades of 75 and 80 were reached by one each, 81 by two, 82 by four, 83 by two, 84 and 85 by one each, 86 by three, 87, 88 and 89 by one each, 90 by five and 91 and 93 by one each. | | |
| Western Reserve University (1904), 79; (1905) 82, 89, 90; (1906) the grade of 81 was reached by two, 83 by one, 84 by two, 85 and 87 by one each, 88 and 89 by two each and 90, 91, 92 and 93 by one each. | | |
| Cleveland Homeo. Med. Coll. (1906), the grades of 76, 77, 78 and 80 were reached by two each and 87, 88 and 95 by one each. | | |
| Eclectic Med. Inst., Cincinnati (1906) 77, 78, 83, 83, 84, 84, 85, 89 | | |
| Miami Med. Coll. (1906), the grades of 84 and 87 wer reached by two each, 86 by one, 89 by four, 90 by two, 91 by three, 92 and 93 by two each and 94 by one. | | |
| Medical Coll of Ohio (1905), 89, 89; (1906) the grades of 80, 82, 83, 84 and 85 were reached by one each, 87 by five, 88 by two, 89 by five, 90 by two, 91 and 93 by one each and 94 by two. | | |
| Ohio Medical University (1906), the grade of 78 was reached by two, 79, 81, and 82 by three each, 83 by four, 84 by three, 85 by one, 86 by seven, 87 and 88 by three each, 89 by four, 90 by three, 91 by one, 92 by two and 93 by one. | | |
| University of Pennsylvania | (1905) | 93. |
| Jefferson Med. Coll. | (1906) | 88. |
| Med. Coll. of Virginia | (1906) | 87. |
| University of Toronto | (1888) 87; (1893) | 89. |
| University of Vienna | (1905) | 91. |
| Helsingfors University, Finland | (1900) | 79. |
| Royal University, Naples | (1905) | 77. |

FAILED.

| | |
|---|---|
| Starling Med. Coll. | (1906) 72, 73. |
| Ohio Med. University | (1906) 74. |
| Toledo Med. Coll. | (1897) 88. |
| Royal University, Naples | (1905) 73. |

*Extinct 1903.

**The following questions were asked:**

PHYSIOLOGY.

1. Describe a protoplasmic cell and its method of propagation. 2. What is a nervous reflex? Give one or more examples. 3. What is inhibitory nerve action? Give an example. 4. Define common and special sensation. Give the physiology of sight and taste. 5. Name some foods containing starch. What changes does starch undergo in the process of digestion? 6. Describe the growth of bone. 7. What is urea and what is its source? 8. What is the difference between the blood in the portal vein and that in the hepatic vein? 9. What is the office of the lymphatics? 10. What is the periosteum and its function?

ANATOMY.

1. Name the contents of the thorax. 2. Describe the urethra. 3. How many membranes cover the brain, and what are their main characteristics? 4. What muscles move the femur? 5. What branches are given off from the arch of the aorta? 6. Describe the clavicle. 7. Name the muscles of the eyeball. 8. Name the valves of the heart and give their locations. 9. Describe the spinal cord. 10. What is the office of the twelfth pair of nerves.

PHYSICAL DIAGNOSIS.

1. State the significance of tachycardia (frequent pulse), and the pathologic conditions in which it is found. 2. What is the condition of the pulse named brachycardia or bradycardia, and its pathologic meaning? 3. Give clinical significance of arrhythmia (irregular pulse), and its principal varieties. 4. Explain the significance of the presence of casts in the urine. 5. How can be determined the origin of hematuria? 6. Give pathologic significance of albuminuria. 7. Describe physical signs of mitral incompetency. 8. Describe the Widal test and its diagnostic value. 9. Give diagnostic indications from the character of cough. 10. State diagnostic significance from topographical occurrence of edema.

DISEASES OF WOMEN.

1. Name the varieties of vaginitis and give treatment of each. 2. Give symptoms, diagnosis and treatment of (a) rectocele; (b) cystocele. 3. Give etiology, diagnosis and treatment of prolapse of the uterus. 4. Give symptoms, diagnosis and treatment of retroversion of the uterus. 5. Give symptoms and treatment of chronic endometritis.

DISEASES OF CHILDREN.

1. Define rachitis and differentiate from osteomalacia. 2. Give symptoms and course of scarlatinal nephritis. 3. Differentiate varicella, variola and varioloid. 4. Give causes and treatment of enuresis. 5. Describe cholera infantum and give symptoms.

CHEMISTRY.

1. What is specific gravity. What is the specific gravity of oxygen? 2. Give chemical name and describe vitriol. Give formula of aqua fortis. 3. What is a deliquescent salt? An effervescent salt? A fluorescent salt? Anhydrous compound? 4. Give the formula for sulphuric acid, nitric acid, hydrochloric acid. 5. Give the chemical names for (a) lime. (b) calomel. (c) Paris green. (d) cream of tartar. Describe any one of these. 6. What are the chemical antidotes for poisoning by prussic acid? By arsenic? 7. Describe magnesium oxid. Sulphate of iron. 8. Give specific gravity of urine. Give carefully one test only in each case for earthy phosphates, albumin, sugar. 9. What are the constituents of cow's milk? What ordinary tests would you make to determine its purity? 10. What is "soft" and "hard" water? What ordinary chemical tests could you apply for determining the purity of water?

SURGERY.

1. Classify wounds and give treatment and prognosis of a punctured wound. 2. Describe bloodless treatment of congenital dislocation of hip. 3. Classify fractures and give treatment and prognosis of Colles' fracture. 4. Define sepsis and give general treatment. 5. Give surgical treatment for tubercular peritonitis. 6. When would you use a trephine and give an example? 7. Define aneurism and give treatment. 8. What are some of the surgical diseases of the kidneys? 9. Name some surgical diseases of the rectum and give treatment for two of them. 10. Give indications for opening the mastoid cells.

MATERIA MEDICA AND THERAPEUTICS.

1. What is hypodermoclysis? What indication is it intended to fulfill? What agents are employed? 2. Name the most important of the nitrites; how do they act? Give some indications for their use. From what is adrenalin derived? What are its uses in medicine; how is it employed? 4. How is caffein obtained; what is its physiologic action? Give some of its therapeutic indications. 5. Describe briefly the action of aconite; name two drugs which have a similar action. 6. Name some of the more common agents employed for the purpose of promoting diuresis; give the manner of using them. 7. What remedies are employed for the purpose of stimulating the respiratory center? How do they act? 8. What is the action of the salicylates in rheumatism? How should they be given? 9. Write a prescription for a patient suffering from acute rheumatism. How is the hot pack employed? What are some of the indications for its use and what is the theory underlying it?

MATERIA MEDICA AND THERAPEUTICS (HOMEOPATHIC).

1. What are the important symptoms governing the selection of the similimum and are they diagnostic symptoms? 2. Define and give two examples of each of the following: (a) Palliative medicine; (b) curative medicine. 3. Differentiate aconite, belladonna and gelsemium in fever. 4. Give leading symptoms of cantheum. 5. Differentiate the symptoms of three forms of mercury. 6. Differentiate kali carb. and bryonia in chest troubles. 7. What remedies do you rely on in first stage of pneumonia and give their leading symptoms? 8. What remedies do you rely on, principally, after consolidation of the lung has taken place in pneumonia and give their leading symptoms? 9. Name the alkaloids of five different drugs. 10. Name three remedies, with their symptoms, that would be indicated in uremia.

MATERIA MEDICA AND THERAPEUTICS (ECLECTIC).

1. From what is podophyllum obtained? Compare action of podophyllin and calomel. 2. Describe hydrastis. Give various preparations, dosage and indications for its use. 3. What are the common and botanical names of aconite and its specific indications and medicinal dose? Give symptoms and treatment of poisoning by it. 4. Give indications for the use of acids and alkalies. 5. What are sedatives? Name four so-called special sedatives with their indications and dose. 6. What is the usual hypodermic dose of morphin? Of nitroglycerin? Of hyoscyamin? When are they contraindicated? 7. What objections are there to the prolonged use of the bromids? What plant preparations would you prefer to use instead? 8. What are diaphoretic powder, Dover's powder, emetic powder? What are their indications and doses? 9. Tell something of the iron preparations and their use and doses. 10. Give carefully the specific indications for the use of Rhus tox, nux vomica, asclepias, apis, apocynum.

PRACTICE AND PATHOLOGY.

1. Give pathology and diagnosis of tabes dorsalis. 2. Name some of the causes that give rise to uremia. 3. Differentiate symptomatically between alcoholism, cerebral hemorrhage and sunstroke. 4. Give diagnosis and treatment of acute miliary tuberculosis. 5. Briefly diagnose pneumonia. 6. What diseases may be indicated by emaciation, pallor and cachexia? 7. Give symptoms and treatment of chronic interstitial nephritis. 8. Give pathology and treatment of erysipelas. 9. Give symptoms and treatment of angina pectoris. 10. Give etiology and treatment of bronchial asthma.

OBSTETRICS.

1. How should a patient be prepared for labor? 2. How, in labor, may the anterior fontanelle be distinguished from the posterior fontanelle? 3. Give a breach presentation with both legs of fetus extended, what course shall be followed. 4. Describe Schultze's method of resuscitating the new-born child. 5. What are some of the causes which may contribute to the formation of placenta previa? 6. What inference is warranted, when engagement in the pelvis of the presenting part is long delayed, the labor pains being good? 7. What have you to say concerning the use of the postpartum douche? 8. Name some of the more frequent causes giving rise to maternal dystocia. 9. How should a patient in labor, puerperal stage, be catheterized? 10. What relation, if any, does disease of the nipples sustain to abscess of the breast?

**Connecticut Eclectic Committee Adopts Standard.**—Dr. George A. Faber, secretary of the Connecticut Eclectic Medical Examiners, reports that at a regular meeting in Hartford, November 13, 1906, the following resolution was passed:

WHEREAS, We, the Connecticut Eclectic Medical Examiners, believe that the best interests of the entire medical profession would be subserved by the universal adoption of a uniform standard of medical education, and

WHEREAS, In our opinion such uniform standard should be based on a preliminary education equal to that required for graduation at a first-class high school and graduation from a medical college requiring the attendance of four full courses of lectures; therefore be it

*Resolved*, That the standard recommended by the Council on Medical Education of the American Medical Association be, and the same is hereby adopted, as the standard of the Connecticut Eclectic Medical Examiners.

**New Jersey October Report.**—Dr. J. W. Bennett, secretary of the New Jersey State Board of Medical Examiners, reports the written examination held at Trenton, Oct. 16-17, 1906. The number of subjects examined in was 9; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 37, of whom 27 passed and 10 failed. The following colleges were represented:

PASSED.

| College. | Year Grad. | Per Cent. |
|---|---|---|
| Baltimore Med. Coll. | (1905) 84, 78.9; (1906) | 77.9 |
| Johns Hopkins University | (1902) | 78.1 |
| College of P. and S., Baltimore | (1906) | 81.9 |
| Boston University | (1889) | 81.9 |
| Harvard Med. School | (1904) | 83.8 |
| University of Michigan | (1898) | 83.5 |
| Long Island College Hospital | (1906) | 78.1 |
| University of Pennsylvania. | (1901) 80.9; (1903) 84, 85.7; (1905) 86; (1906) 77.8, 82.5, 90.6. | |
| Medico-Chirurgical Coll., Philadelphia | (1906) | 89 |
| Jefferson Med. Coll. | (1905) 84; (1906) 76.1, 76.4, 78.8, 80, 86.3 | |
| Hahnemann Med. Coll., Philadelphia | (1903) | 82.6 |
| Woman's Med. Coll. of Pennsylvania | (1905) | 80.3 |
| University of Virginia | (1904) | 78.1 |
| University of Naples, Italy | (1901) | 76 |

FAILED.

| | | |
|---|---|---|
| University of Kentucky | (1906) | 67.1 |
| University of Maryland | (1898) | 72.4 |
| College of P. and S., Baltimore | (1904) 70.1; (1906) | 72.7 |
| Baltimore Med. Coll. | (1905) | 67.1 |
| Boston University | (1904) | 64, 71.9 |
| Jefferson Med. Coll. | (1905) 0, (1906) | 73.5 |
| Hahnemann Med. Coll., Philadelphia | (1893) | 64.2 |

**South Dakota July Report.**—Dr. H. E. McNutt, secretary of the South Dakota State Board of Medical Examiners, reports the written examination held at Watertown, July 11-12, 1906. The number of subjects examined in was 12; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 25, of whom 15 passed and 10 failed. Seventeen reciprocal licenses were granted. The following colleges were represented:

PASSED.

| College. | Year Grad. | Per Cent. |
|---|---|---|
| Denver and Gross Coll. of Med. | (1906) | 85.1 |
| Rush Med. Coll. | (1903) 82.4; (1906) 78.6, | 87.4 |
| Northwestern University | (1906) | 81.2 |
| American Coll. of Med. and Surg., Chicago | (1906) | 76.4 |
| College of P. and S., Chicago. | (1903) 82.3; (1905) 75; (1906) | 86.3 |
| Atlanta Coll. of P. and S. | (1901) | 75 |
| University of Michigan | (1906) | 77.2 |
| Lincoln Med. Coll. | (1904) | 82.3 |
| Bellevue Hosp. Med. Coll. | (1897) | 75.4 |
| Jefferson Med. Coll. | (1906) | 81 |
| Imperial Royal University, Vienna | (1901) | 81.1 |

FAILED.

| | | |
|---|---|---|
| Bennett Coll. of Eel. Med. and Surg., Chicago | (1901) | 58.8 |
| College of P. and S., Chicago | (1906) 64.9, | 72.2 |
| American Coll of Med. and Surg., Chicago | (1904) | 70 |
| Indiana Med. Coll. | (1905) | 64.4 |
| Keokuk Med. Coll. | (1894) | 39.8 |
| Hamline University | (1906) | 72.8 |
| Barnes Med. Coll., St. Louis | (1905) | 68.6* |
| Lincoln Med. Coll. | (1906) | 70.3 |
| Jefferson Med. Coll. | (1906) | 72.2 |

LICENSED THROUGH RECIPROCITY.

| College. | Year Grad. | Reciprocity with. |
|---|---|---|
| Rush Med. Coll. | (1904) | Minnesota |
| Northwestern University | (1903) | Iowa |
| College of P. and S., Chicago | (1906) | Iowa |
| Sioux City Coll. of Med. | (1905) | Iowa |
| University of Iowa | (1904) (1905) | Iowa |
| Drake University | (1905) | Iowa |
| University of Michigan, Homeo. Dept. | (1899) | Minnesota |
| University of Minnesota | (1905) (1908) | Minnesota |
| Hamline University | (1908) | Minnesota |
| University Coll. of Med., Kansas City | (1908) | Iowa |
| Marion-Sims Coll of Med. | (1893) | Minnesota |
| College of P. and S. Wisconsin | (1902) | Minnesota |
| Trinity Med. Coll., Toronto, Canada | (1900) | Wisconsin |
| University of Christiana, Norway | (1892) | Wisconsin |
| Edinburgh University, Scotland | (1881) | Minnesota |

* Second examination.

**Wisconsin Reciprocity Report.**—Dr. J. V. Stevens, secretary of the Wisconsin Board of Medical Examiners, sends us a report of physicians licensed through reciprocity at their meeting held Oct. 9, 1906. The following colleges were represented:

| College. | Year Grad. | Reciprocity with. |
|---|---|---|
| College of P. & S., Chicago | (1904) | Iowa. |
| College of P. and S., Chicago | (1905) (1906) | Illinois. |
| College of P. & S., Chicago | (1902) | Nebraska. |
| Rush Med. Coll. | (1903) (1905) (1906) | Illinois. |
| Rush Med. Coll. | (1894) | Iowa. |
| Rush Med. Coll. | (1881) (1901) | Minnesota. |
| Hahnemann Med. Coll., Chicago | (1903) (1908) | Illinois. |
| Northwestern University | (1906) | Illinois. |
| American Coll. of Med. and Surg. | (1905) | Illinois. |
| American Med. Miss. Coll. | (1905) | Iowa. |
| Keokuk Med. Coll., Coll. of P. & S. | (1908) | Iowa. |
| Baltimore Med. Coll. | (1903) | Nebraska. |
| University of Michigan | (1904) | Iowa. |
| St. Louis Univ. (Marion-Sims-Beaumont Med. Coll.) Illinois | | (1906) |
| Ensworth Med. Coll., St. Joseph | (1903) | Nebraska. |
| Cincinnati Coll. of Med. & Surg. | (1906) | Illinois. |
| Jefferson Med. Coll. | (1904) | Michigan. |
| University of Palermo, Italy | (1900) | Connecticut. |

Representatives from the following colleges were conditioned at either the January or July, 1906, examinations, but have since been licensed:

| | |
|---|---|
| Hahnemann Med. Coll., Chicago | (1905) |
| Northwestern University | (1905) |
| Detroit Coll. of Med. | (1904) |
| College of P. & S., St. Louis | (1905) |
| Eclectic Med. Coll., New York | (1900) |
| Albany Med. Coll. | (1887) |
| College of P. & S., Milwaukee | (2, 1905) |
| Queen's University, Kingston, Ontario | (1905) |

**Utah October Report.**—Dr. R. W. Fisher, secretary of the Board of Medical Examiners of Utah, reports the written examination held at Salt Lake City, Oct. 1, 1906. The number of subjects examined in was 8; percentage required to pass, 75. The total number of candidates examined was 11, of whom 8 passed and 3 failed. The following colleges were represented:

PASSED.

| College. | Year of Graduation. | Anatomy. | Surgery. | Histology, Bacteriology, Med. Jurisprudence. | Materia Medica. | Practice, Pathology and. | Chemistry. | Hygiene and Physiology. | Obstetrics and Gynecology. | General Average. |
|---|---|---|---|---|---|---|---|---|---|---|
| Denver and Gross Coll. of Med. | 1905 | 87 | 85 | 55 | 80 | 92.5 | 88 | 75 | 93 | 81.8 |
| Indiana Med. Coll. | 1902 | 85 | 85 | 65 | 90 | 85 | 95 | 75 | 90 | 83.7 |
| Hahnemann Med. Coll., Chicago | 1905 | 89 | 84 | 40 | 88 | 86 | 85 | 76.5 | 88 | 79.2 |
| Coll. of P. & S., Chicago | 1906 | 92 | 90 | 85 | 75 | 88 | 80 | 82.5 | 80 | 84.6 |
| University of Kentucky | 1903 | 90 | 85 | 75 | 75 | 80 | 75 | 72 | 75 | 75.5 |
| Barnes Med. Coll., St. Louis | 1899 | 79 | 79 | 75 | 75 | 90 | 50 | 72.5 | 80 | 75.6 |
| St. Louis Univ. | 1904 | 78 | 83 | 85 | 85 | 78 | 65 | 75 | 70 | 77.2 |
| Univ. Med. Coll., Kansas City | 1904 | 92 | 87 | 75 | 95 | 90 | 90 | 85 | 80 | 86.7 |

FAILED.

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Denver Med. Coll. | 1892 | 87 | 75 | 75 | 75 | 75 | 35 | 70 | 80 | 71.5 |
| Coll. of P. & S., Chicago | 1894 | 81 | 78 | 40 | 75 | 75 | 40 | 67.5 | 70 | 68.1 |
| Laval Univ., Quebec | 1901 | 83 | 78 | 40 | 75 | 71.5 | 70 | 62.5 | 75 | 69.5 |

## Therapeutics

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulæ and outlines of treatment are answered in these columns.]

### Gout Involving the Phalanges.

In the treatment of gout involving the phalangeal articulations, Shoemaker, in *Med. Bull.*, recommends the local application of oil of gaultheria in pure form for the relief of the pain.

To correct the intestinal disturbance the following combination is recommended:

℞. Strych. sulphatis ..... gr. 4/5 | 05
Acidi hydrochlor. dil. ..... f℥ss | 15
Glyceriti pepsini q. s. ad ..... f℥vi | 180
M. Sig.: Two teaspoonfuls in water after each meal.

For general nervousness and insomnia the following combination is recommended:

℞ Ext. cannabis indicæ.....gr. ¼ | 015
Ext. hyoscyami.....gr. ⅛ | 008
Camphoræ monobromatæ.....gr. v | 30
Olei theobromatis q. s.....

M. Ft. suppos. No. i. Sig.: One such suppository to be inserted into the rectum four times a day.

Galvanic electricity, from 10 to 30 milliamperes, is advised once daily. After the acute symptoms have subsided Shoemaker recommends the following combination applied locally:

℞ Olei gaultheriæ
Hydrargyri oleatis (25 per cent.), ää....℥i | 30

M. Ft. unguentum. Sig.: Apply to the fingers and toes several times daily.

Internally, at the same time, he advises the following:

℞ Strych. sulphatis.....gr. 1/60 | 001
Arseni trioxidi.....gr. 1/30 | 002
Ferri pyrophos. solubilis
Quin. sulphatis, ää.....gr. iss | 09

M. Ft. pil. No. i. Sig.: One such pill after each meal and at bedtime.

In cases in which the bowels are constipated he advises the following combination:

℞ Massæ hydrargyri
Ext. colocynth. comp.
Pulv. jalapæ comp., ää.....gr. xx | 1 30
Olei menth. pip.....m. i | 06

M. Ft. pil. No. xx. Sig.: One pill every night before retiring.

In order to stimulate the nervous and glandular systems silver nitrate is advised, given as follows:

℞ Argenti nitratis.....gr. ii | 12
Syrupi acaciæ.....f℥ii | 60

M. Sig.: One teaspoonful before each meal.

Later in the course of the treatment he recommends the following combination:

℞ Liq. acidi arsenosi.....f℥iss | 6
Acidi hydrochlor. dil.....f℥ss | 15
Glyceriti pepsini q. s. ad.....f℥iii | 90

M. Sig.: One teaspoonful in half a glass of water after meals.

The diet, according to Shoemaker, should consist of vegetables, milk and broths. Farinaceous foods such as rice, hominy, oatmeal, should be avoided, and the patient should be instructed to take outdoor exercise and to avoid excitement.

In the treatment of chronic gout, Minkowski, in an abstract in the *Practitioner*, recommends the following combinations:

℞ Tinct. colchici.....f℥i | 4
Potass. citratis.....℥iss | 6
Aquæ chloroformi q. s. ad.....f℥vi | 180

M. Ft. mistura. Sig.: Two tablespoonfuls to be taken every four hours until the pain is relieved. Or:

℞ Tinct. colchici.....m. xx | 1 2
Tinct. belladonnæ.....m. v | 30
Tinct. cimicifugæ.....m. vi | 40
Potassii bicarb.....gr. xii | 75
Infus. gent. co q. s. ad.....f℥i | 30

M. Ft. mistura. Sig.: Two tablespoonfuls to be taken every four hours.

As local applications in cases of acute gout Yeo, in *Clin. Ther.*, recommends the following combinations:

℞ Morphinæ hydrochlor.....gr. x | 65
Linimenti belladonnæ.....f℥iii | 90

M. Ft. linimentum. Sig.: One teaspoonful to be added to a tablespoonful of hot water and applied on lint. Or:

℞ Atropinæ.....gr. iii | 20
Morphinæ hydrochloridi.....gr. xv. | 1
Acidi oleici.....℥i | 30

M. Ft. linimentum. Sig.: To be painted over the painful joint with a large camel hair brush and the joint wrapped in cotton wool. Or:

℞ Tinct. opii.....f℥i | 30
Linimenti saponis.....f℥ii | 60

M. Ft. linimentum. Sig.: To be kept in contact with the affected joint on flannel covered with oil silk. Or:

℞ Ext. opii.....gr. xlv | 3
Ext. hyoscyami.....3iss-ii | 6-8
Adipis.....℥i | 30

M. Ft. unguentum. Sig.: The painful joints to be anointed with the ointment and covered with cotton wool.

In any case in which colchicum for any reason should not be administered, Yeo recommends the following mixtures containing salicylates:

℞ Sodii salicylatis.....3ii | 8
Lithii salicylatis.....gr. xl | 2 65
Potassii citratis.....3iv | 15
Tinct. zingiberis.....m. xxx | 2
Aquæ cinnamomi q. s. ad.....f℥viii | 240

M. Sig.: Two tablespoonfuls every two or three hours until the pain is relieved, then every five or six hours.

If it is desirable to combine colchicum with an aperient, he advises the following combination:

℞ Ext. colchici.....gr. iii | 20
Res. podophylli.....gr. i | 06
Pil. colocynthidis et hyoscyami....gr. xxiv | 1 55

M. Ft. pil. No. vi. Sig.: One pill at bedtime.

## Mixtures for Infants (Continued).

*Mistura salina aperiens:*

℞ Magnesii sulphatis.....gr. iii | 20
Acidi infusi rosæ.....f℥i | 4

M. Sig.: To be given at one dose.

*Mistura scillæ comp.:*

℞ Oxymel scillæ.....m. ii | 12
Spts. etheris nitrosi.....m. ss | 03
Aquæ.....f℥i | 4

M. Sig.: To oe given at one dose.

*Mistura scorparii comp.:*

℞ Potassii acetatis.....gr. i | 06
Spts. etheris nitrosi.....m. i | 06
Sol. ammon. acetatis.....m. v | 30
Aceti scillæ.....m. i | 06
Decoctio scorparii.....f℥i | 4

M. Sig.: At one dose.

*Mistura senegæ comp.:*

℞ Ammonii chloridi.....gr. ss | 03
Ammonii carb.....gr. ½ | 015
Syr. tolutani.....m. vii | 50
Vini ipecacuanhæ.....m. i | 06
Infusi senegæ.....f℥i | 4

M. Sig.: To be given at one dose.

*Mistura sodii citratis:*

℞ Sodii citratis.....gr. iv | 25
Aquæ chloroformi.....℥i | 4

M. Sig.: To be given at one dose.

*Mistura sodii et calcis:*

℞ Sodii bicarb.....gr. ii | 12
Syrupi calcis.....m. v | 30
Aquæ anethi.....f℥i | 4

M. Sig.: To be given at one dose.

*Mistura sodii sulphatis cum cascara:*

℞ Sodii sulphatis.....gr. i | 06
Ext. cascaræ sagradæ liq.....m. i | 06
Glycerini.....m. v | 30
Aquæ cinnamomi.....f℥i | 4

M. Sig.: To be given at one dose.

PULVERES (POWDERS).

*Pulvis alterativus:*

℞ Sodii bicarb.....gr. i | 06
Pulv. rhei
Hydrarg. cum cretæ, ää.....gr. ss | 03

M. Sig.: At one dose.

*Pulvis bismuthi astringens:*

℞ Bismuthi oxynitratis
Acidi tannici, ää.....gr. i | 06
Pulv. cretæ arom.....gr. ss | 03

M. Sig.: To be given at one dose.

*Pulvis bismuthi comp.:*

℞ Magnesii carb.....gr. ss | 03
Bismuthi oxynitratis.....gr. i | 06
Pulv. cretæ arom.....gr. ss | 03

M. Ft. pulvis. Sig.: To be given at one dose.

*Pulvis bismuthi cum opio:*

℞ Bismuthi oxynitratis.....gr. vi | 40
Pulv. cretæ arom cum opio.....gr. ss | 03
M. Ft. pulvis. Sig.: To be given at one dose.

*Pulvis calcii sulphidi:*

℞ Calcii sulphuratæ.....gr. 1/10 | 006
Sacch. lactis.....gr. i | 06
M. Ft. puvis. Sig.: To be given at one dose.

*Pulvis catharticus:*

℞ Pulv. jalapæ co.....gr. i | 06
Hydrarg. chloridi mitis.....gr. 1/3 | 02
Pulv. zingiberis.....gr. ¼ | 015
M. Ft. pulvis. Sig.: To be given at one dose.

*Pulvis conspersus zinci oxidi:*

℞ Zinci oxidi.....℥v | 150
Pulv. amyli.....℥i | 500
M. Ft. pulvis. Sig.: Apply locally.

*Pulvis conspersus cum hydrargyro:*

℞ Zinci oxidi
Acidi borici
Pulv. amyli
Hydrarg. chloridi mitis, ää.....℥iv | 15
M. Ft. pulvis. Sig.: Apply locally.

*Pulvis hydrargyri aromaticus:*

℞ Hydrargyri cum cretæ
Pulv. cretæ arom., ää.....gr. ss | 03
M. Ft. pulvis. Sig.: To be given at one dose.

*Pulvis sodii phosphatis:*

℞ Sodii phosphatis.....gr. iii | 20
Sig.: To be given at one dose.

*Pulvis thyroideæ:*

℞ Pulv. thyroideæ.....gr. 1/6 | 01
Sig.: To be given at one dose.

UNGUENTA.

*Unguenta acidi carbolici et sulphuris:*

℞ Phenolis liq.
Ung. hydrarg. nitratis, ää.....℥ii | 8
Ung. sulphuris.....℥ss | 15
M. Ft. unguentum. Sig.: Apply locally.

*Unguentum acidi salicylici cum bismutho:*

℞ Acidi salicylici.....gr. xv | 1
Bismuthi oxycarbon
Pulv. amyli, ää.....℥i | 4
Ung. zinci q. s. ad.....℥i | 30
M. Ft. unguentum. Sig.: Apply locally.

*Unguentum flavum dilutum:*

℞ Hydrarg. oxidi flavi.....gr. iv | 25
Lanolini.....℥i | 30
M. Ft. unguentum. Sig.: Apply locally.

*Unguentum hydrarg. ammon. dil.:*

℞ Hydrarg. ammoniati.....gr. v | 30
Ceri flavi
Olei oliveæ, ää.....℥ss | 15
Adipis q. s. ad.....℥iss | 45
M. Ft. unguentum. Sig.: Apply locally.

# Medicolegal

## SOME LEGISLATION OF 1906.

### Provides for Annual Conference for Boards of Health.

Chapter 131 of the Laws of New Jersey of 1906 authorizes the Board of Health of the state of New Jersey to appoint a time and place for a conference, once each year, between the members of said board and delegates from the various local boards of health in the state, for the consideration of questions relating to the prevention of the spread of dangerous communicable diseases and the promotion of the public health. Each local board of health is authorized to appoint one of its members or officers or employés as a delegate from such board to attend every such annual conference, and the actual traveling and hotel expenses of each delegate so appointed shall be paid by the treasurer or other disbursing officer of the township or municipality within which such local board has jurisdiction, on presentation by the delegate of a certificate of his appointment and a bill of his expenses duly verified by affidavit.

### New Provision for Abolishing Mosquito-Breeding Areas.

Chapter 134 of the Laws of New Jersey of 1906, going much farther than did the act of 1905, reported in the Medicolegal Department of the THE JOURNAL of Dec. 16, 1905, page 1903, makes it the duty of the director of the state experiment station to have all of the salt-marsh areas of the state surveyed and maps made indicating all of the mosquito-breeding places found on every such area, together with a memorandum of the method to be adopted in dealing with such mosquito-breeding places, and the probable cost of abolishing same. Likewise, surveys and maps shall be made of fresh-water swamps or other territory suspected of breeding malarial or other mosquitoes, at the request of any local board of health, which may be made on its motion, but must be made when petitioned for by ten or more freeholders. The proper local boards of health are to be informed of the mosquito-breeding places shown on the maps of salt-marsh areas, and notice given to the owners to abate them as nuisances, but if the owners fail to comply, the boards of health are to act. In all investigations made under the provision for the survey of fresh-water swamps or other suspected territory stated, the report to be made to the board of health requesting the survey shall state what mosquitoes were found in the territory complained of, whether they are local breeders or migrants from other points, and, in the case of migrants, their probable source, whether the territory in question is dangerous as a nuisance because of mosquito breeding, the character of the work necessary to abate such nuisance and abolish the breeding places, and the probable cost of the work. Said board must then proceed to abolish the breeding places found, under the general powers of the board, but may be assisted by the state.

### Act to Regulate Private Institutions for the Insane.

Chapter 272 of the Laws of New Jersey of 1906 requires that all asylums, homes, sanitariums, sanatoriums, retreats, hospitals, institutions or corporations now operating or which shall hereafter operate as private enterprises and receive, care for and treat for compensation persons who are insane or suffering from mental disorders, shall have a license from the Department of Charities and Corrections of the State. An application for license must be accompanied by plans of the premises proposed to be occupied, describing the capacities of the buildings for the uses intended, the extent and locations of the grounds appurtenant thereto, and the number of patients of either sex proposed to be received therein. A careful inquiry shall then be made into the merits of such application, and it shall be ascertained if such facilities have been provided as will entitle the applicant to a license. Inspections shall also be made semi-annually, or oftener, if necessary. All such institutions shall have at least one resident physician, who has been regularly graduated from a reputable medical college or university, and such physician shall live in such institution or devote as much as four hours each day to the care and treatment of the patients in such institution.

### Act Relative to the Appointment of School Physicians.

Chapter 502 of the Acts of Massachusetts of 1906 provides that the school committee of every city and town in the commonwealth shall appoint one or more school physicians, shall assign one to each public school within its city or town, and shall provide them with all proper facilities for the performance of their duties as prescribed in this act; provided, however, that in cities wherein the board of health is already maintaining or shall hereafter maintain substantially such medical inspection as this act requires, the board of health shall appoint and assign the school physician.

Every school physician shall make a prompt examination and diagnosis of all children referred to him as hereinafter provided, and such further examination of teachers, janitors and school buildings as in his opinion the protection of the health of the pupils may require.

The school committee shall cause to be referred to a school physician for examination and diagnosis every child returning

to school without a certificate from the board of health after an absence on account of illness or from unknown cause; and every child in the schools under its jurisdiction who shows signs of being in ill health or suffering from infectious or contagious disease, unless he is at once excluded from school by the teacher; except that in the case of schools in remote and isolated situations the school committee may make such other arrangements as may best carry out the purposes of this act.

The school committee shall cause notice of the disease or defects, if any, from which any child is found suffering, to be sent to his parent or guardian. Whenever a child shows symptoms of smallpox, scarlet fever, measles, chickenpox, tuberculosis, diphtheria or influenza, tonsillitis, whooping-cough, mumps, scabies or trachoma, he shall be sent home immediately, or as soon as safe and proper conveyance can be found, and the board of health shall at once be notified.

The school committee of every city and town shall cause every child in the public schools to be separately and carefully tested and examined at least once in every school year to ascertain whether he is suffering from defective sight or hearing or from any other disability or defect tending to prevent his receiving the full benefit of his school work, or requiring a modification of the school work in order to prevent injury to the child or to secure the best educational results. The tests of sight and hearing shall be made by teachers. The committee shall cause notice of any defect or disability requiring treatment to be sent to the parent or guardian of the child, and shall require a physical record of each child to be kept in such forms as the state board of education shall prescribe.

The state board of health shall prescribe the directions for tests of sight and hearing, and the state board of education shall, after consultation with the state board of health, prescribe and furnish to school committees suitable rules of instruction, test cards, blanks, record books and other useful appliances for carrying out the purposes of this act, and shall provide for pupils in the normal schools instruction and practice in the best methods of testing the sight and hearing of children.

### Advances Age of Consent.

Chapter 24 of the Laws of Kentucky of 1906 amends section 1155 of the Kentucky Statutes fixing the age of consent by striking out of said section the word "twelve" and inserting in lieu thereof the word "sixteen."

### Authorizes County Hospitals for Treating Tuberculosis.

Chapter 53 of the Laws of Kentucky of 1906 provides that in counties which contain a city of the first class there shall be created a board to be composed of ten persons, which shall be a body politic and corporate, and shall be known as the "board of tuberculosis hospital." The members of the board shall be appointed by the mayor of the city, who shall be ex-officio a member of the board. Said board shall have the power to organize and elect officers, rent or purchase, or to erect, and to conduct and maintain, a suitable hospital and ground for the treatment of persons afflicted with tuberculosis, and to make all needful rules and regulations with reference to the admission and discharge of patients and the conduct of the affairs of the hospital.

### An Act to Establish an Epileptic Colony.

Chapter 48 of the Acts of Assembly of Virginia of 1906 recites that: Whereas, The existing state hospitals for the white insane are now taxed to their fullest capacity, and will be insufficient in the near future for the care of all such unfortunate persons; and whereas, there are in the said hospitals about 250 patients suffering from epilepsy, so environed as to be harmful to themselves and their associates; and whereas, there is probability of improvement and cures, under special hygienic surroundings, congenial employment, and scientific medical treatment, such as may be available at a separate colony, which appears to be the most economic, beneficial and satisfactory method of caring for epileptics; and whereas, it appears from the report of the commissioner of state hospitals that unless additional accommodations are provided it will be necessary in the near future to incarcerate in the jails a large number of insane and white epileptic citizens of the commonwealth, and that it is more economical and humane to treat such unfortunates in hospitals than in jails; therefore, be it enacted that the special board of directors of the Western State Hospital, under the supervision and control of the general board of directors of the state hospitals for the insane, be authorized and directed to erect on the tract of land in Amherst County, opposite the city of Lynchburg, devised to the said Western State Hospital by the will of Sidney R. Murkland, deceased, out of consideration for the kindly and humane treatment of his son at said hospital, all suitable buildings and appurtenances for the establishment of a colony for the reception, care, treatment, training and employment of 300 epileptic patients. When the buildings for the proper use and conduct of the colony, or a sufficient number of them, shall have been completed, equipped and furnished and ready for occupancy, the superintendent of the Western State Hospital shall, with the approval of the special board, designate from the corps of assistant physicians at said hospital a sufficient number of physicians, who shall be residents at said colony. Said general board shall have care and control of the colony as a part of said hospital, and the care, control and treatment of the patients committed to the colony, subject to the laws, rules and regulations governing the Western State Hospital.

### Prohibits Expectorating in Public Places.

Chapter 302 of the Acts of Assembly of Virginia of 1906 enacts that no person shall spit, expectorate or deposit any sputum, saliva, mucus, or any form of saliva or sputum on the floor, stairways or on any part of any theater, public hall, or on the floor or any part of any railroad car or street car or steamboat, or on the floor or any part of any car of interurban or suburban railway, or of any other public conveyance in the state of Virginia, or on any sidewalk on any public street, alley or lane of any town or city in the state, under penalty of a fine of not less than $1 nor more than $5 and costs, and in default of payment, imprisonment not exceeding five days.

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## Current Medical Literature

### AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

#### Medical Record, New York.

*December 8.*

1 *Trypsin in Cancer. W. J. Morton, New York.
2 *Case of Bronchitis, with Remarks on Cough and the Perforated Zinc Inhaler. B. Robinson, New York.
3 *Etiology of Cancer. W. H. Dieffenbach, New York.
4 *Importance of the Early Diagnosis and Treatment of Epileptic Symptoms. P. M. Stites, Hopkinsville, Ky.
5 Late Results of the X-Ray Treatment of Cutaneous Epithelioma. C. M. Williams, New York.
6 *Etiologic Factors in Bone Tuberculosis in Children. C. Wallace, New York.
7 Sarcoma of the Nasal Fossa. R. H. Johnston, Baltimore, Md.

1. **Trypsin in Cancer.**—Morton recently instituted a series of experiments consisting of the consecutive use of trypsin in a series of about 30 cases of cancer, both hospital and private. Two of these, patients with facial cancer, are cured to date. In one case, a remarkable process of retrogression by degeneration and atrophy of a carcinomatous breast gland to final and curative obliteration, has been demonstrated microscopically. In all cases signs of amelioration in the progress of the disease have been observed. It has been demonstrated that both local and constitutional reaction may be produced by the use of trypsin. Enlarged glands have rapidly diminished in size. Trypsin has a decided effect, Morton declares, in reducing cancer cachexia, and in improving the general health. Even in severe cases of uterine cancer involving the associated pelvic organs, the disease may be brought to a halt. The influence of amylopsin seems to have had much to do with favorable results.

2. **Perforated Zinc Inhaler in Bronchitis.**—Robinson points out the benefits from the use of the perforated zinc inhaler. After 48 hours of this treatment the general symptoms were markedly less, and the pulse and heart action were greatly improved. The solution employed in the inhaler is composed of equal parts of beechwood creosote, alcohol and spirit of chloro-

form. In the case reported creosote internally, as well as coca and magnesia mixture, aided in bringing about the recovery. At first the inhaler should be worn a few minutes at a time, being reapplied every hour or two. Later it may be worn continuously one or more hours during the day and even during the night.

3. **Etiology of Cancer.**—Dieffenbach emphasizes the important part played by trauma, pressure, severe inflammations and constant irritations in the production of cancer.

4. **Early Diagnosis of Epileptic Symptoms.**—Stites declares that in all cases in which obscure mental or nervous symptoms tend to occur periodically with normal intervals, the possibility or probability of epilepsy in the form of psychic, Jacksonian or petit mal seizures should be considered, and careful study should be given to the symptoms.

6. **Etiologic Factors in Bone Tuberculosis.**—Wallace believes that the two strong factors which are instrumental in causing bone tuberculosis are inherited tendency, and insanitary and otherwise unfavorable environment. He pleads for a better education of sufferers from tuberculosis that they may guard against infecting children.

### New York Medical Journal.

*December 8.*

8 The Principle of Top Milks. H. D. Chapin, New York.
9 Exophthalmic Goiter from the Standpoint of Serum Therapy. J. Ewing, New York.
10 Three Hundred Operations for Hernia. C. Pfister, New York.
11 *Compulsory Reports and Registration of Tuberculosis in the United States. W. H. Baldwin, Washington, D. C.
12 Psychical and Medical Treatment of Conditions Underlying Gastric Peptic Ulcer. M. R. Barker, Chicago.
13 Multiple Chancre; Case with Five Initial Lesions on the Penis. F. C. Knowles, Philadelphia.
14 Pyelonephritis. F. Fremont-Smith, Washington, D. C.
15 Relaxation of the Sacro-iliac Synchondroses. J. Dunlop, Washington, D. C.
16 *Disinfection of Physician's Hands. P. Shekwana, Iowa City, Iowa.

11. **Registration of Tuberculosis.**—Baldwin states that the growing knowledge of the nature of tuberculosis and the increasing interest taken in the subject is having its influence in adding to the number of cities requiring compulsory reports and registration of all cases of tuberculosis, and that the wisdom of what is logically the first step to be taken in the control of the disease is confirmed by experience when it has been attempted in the proper manner.

16. **Disinfection of Physician's Hands.**—Shekwana says that every practitioner should have with him a small bottle containing some disinfectant. As soon as he starts on his visits he should disinfect his hands in order to make them sterile. After he examines his first patient and leaves the house, he should put some of this disinfectant on his hands again in order to kill the bacteria which might have fallen on his hands from the first patient, and in that way he will avoid infecting the second patient with the first patient's disease, and so on. This system will make it very safe for the physician himself, his family, and for all those who come in contact with him. The disinfectant to be used is a matter of choice. Shekwana recommends the following disinfectants: A solution of bichlorid of mercury, 1 in 1,000, will sterilize the hands in from five to ten minutes. A solution of from 4 to 5 per cent. carbolic acid will act in from ten to fifteen minutes in a similar manner. A 2 per cent. solution of lysol will act in about ten minutes, and render the hands sterile.

### Boston Medical and Surgical Journal.

*December 6.*

17 Major Symptoms of Hysteria. P. Janet, Paris, France.
18 *Two Cases of Rupture of the Liver. F. B. Lund and W. C. Howe, Boston.
19 Subcutaneous Rupture of the Liver. J. C. Hubbard, Boston.
20 Report of Milk Commission of the Suffolk District Medical Society. J. L. Morse, Boston.

18. **Rupture of Liver.**—In one case reported by Lund and Howe, a rupture of the dome of the liver which had caused extensive hemorrhage into the peritoneal cavity, was closed by five sutures of coarse silk passed by an ordinary large Hagedorn needle. Access to the dome of the liver was obtained by passing the left hand of the operator up under the diaphragm and drawing the liver downward and pushing it inward toward the median line. The ribs being lifted by the hand of an assistant, these coarse sutures could be placed and tied without difficulty. By the traction downward and inward on the liver the hemorrhage was checked, so that as the liver was held in the left hand, the sutures could be passed with the right. Then with the sutures held taut the liver was let go, and it was found that the bleeding was checked; the sutures were tied from above downward successively. The subsequent progress of the patient was so favorable as to lead Lund and Howe to believe that whenver feasible, ruptures of the liver should be closed with sutures rather than by gauze packing. In the second case the gauze packing was resorted to both on account of the extent of the injury and because the patient was in such poor condition as to contraindicate any method which consumed more than the shortest possible time. In spite of the unfavorable conditions the patient lived a week after the operation; the gauze packing was efficient in controlling hemorrhage, and the autopsy showed that the lines of rupture were covered with fibrin and blood clot.

### Lancet Clinic, Cincinnati.

*December 8.*

21 *Injection Treatment of Syphilis. E. O. Smith, Cincinnati.
22 President's Address Before the First Councilor District Medical Society, Cincinnati. J. C. Larkin, Hillsboro, Ohio.

21. **Infection Treatment of Syphilis.**—Smith has used the following formula for a number of years with most excellent results:

℞ Hydrarg. bichloridi
Acidi carbolici, āā.....gr. viii | 50
Sodii chloridi.....gr. xvi | 1
Aquæ dest. .....℥i | 30

M. Sig.: Fifteen drops of the solution contain one-fourth grain of the bichlorid. This should be kept in a dark bottle.

The gluteal region is to be preferred for the injection on account of the large pad of fat and the thick muscular layers. Treatment should be instituted as soon as positive symptoms develop. In cases of pregnancy, when the woman has had one or more miscarriages, the injection of one-fourth grain of bichlorid of mercury each week has a most satisfactory effect, as the woman will go to full term and be delivered of a healthy child. The advantages of the bichlorid of mercury with phenol over other preparations used in the injection treatment are: 1. It is practically painless. 2. The solution is so strongly antiseptic that with the proper aseptic care of the needle and skin abscesses never develop. 3. It is absorbed so completely that no nodosities remain. 4. It does not produce stomatitis or enterocolitis nearly so quickly as the other methods of injection treatment. 5. It is easily prepared by any practitioner.

### St. Louis Medical Review.

*December 1.*

23 Treatment of Neuralgias with Injections of Alcohol. L. Hauck, St. Louis.
24 Pathologic and Clinical Diagnosis of Sarcoma. (To be continued.) M. G. Seelig, St. Louis.

### Surgery, Gynecology and Obstetrics, Chicago.

*November.*

25 *Forty-eight Cases of Delivery by Abdominal Section. E. P. Davis, Philadelphia.
26 *Therapeutics of Retrodisplacement. E. E. Montgomery, Philadelphia.
27 Treatment of Tuberculous Glands of the Neck. J. H. Gibbon, Philadelphia.
28 *Lacerations of the Cervix Uteri. S. Coles, Philadelphia.
29 Relaxation and Atony of the Non-Puerperal Uterus Incident to Dilatation and Curettage. F. H. Maier, Philadelphia.
30 *Three Cases of Eclampsia with Recovery Without Delivery. C. Foulkrod, Philadelphia.
31 Insidious Affections of the Kidney in the Young. R. Gilmore, Chicago.
32 *Dystocia from Congenital Cystic Kidney of the Fetus. F. W. Lynch, Chicago.
33 Statistical Study of Deaths from Cancer in the City of Philadelphia, with Especial Reference to Cancer of the Uterus. P. B. Bland, Philadelphia.
34 *Case of Traumatic Asemia. J. C. DaCosta, Philadelphia.
35 *Relation of the General Surgeon to the Practice of Gynecology. J. M. Fisher, Philadelphia.
36 Tamponing the Puerperal Uterus. G. A. Ulrich, Philadelphia.
37 Bacteriologic and Histologic Study of Organs Removed from Tuberculous Subjects. R. C. Rosenberger, Philadelphia.
38 Irrigation and Drainage of Seminal Duct and Vesicle Through the Vas Deferens. W. T. Belfield, Chicago.
39 Lipoma of the Uterus. A. G. Ellis, Philadelphia.
40 Sacrococcygeal Tumor (Teratoma). W. W. Eves and W. M. L. Coplin, Philadelphia.

41 Case of Mummified Fetus of Thirteen Years Standing. P. B. Bland, Philadelphia.
42 Technic of Closing Lacerations in the Anterior and Posterior Segments of the Pelvic Floor and Perineum Immediately After Labor. G. A. Ulrich, Philadelphia.
43 Technic of Immediate Enterostomy. F. T. Stewart, Philadelphia.
44 Technic of Delivery by Abdominal Section. E. P. Davis, Philadelphia.
45 Operative Treatment of Carcinoma of the Rectum. J. C. Beck, Philadelphia.
46 Further Observations on Extensive Separation of the Periosteum in Displaced Bone Fragments. C. Beck, New York.
46½ Physiology and Pathology of the Abdominal Muscles. A. Rose, New York City.

**25. Delivery by Abdominal Sections.**—The clinical study of 48 cases of delivery by abdominal section by Davis suggests points concerning the choice of operation and the method for its performance. These operations were performed in one maternity hospital, three general hospitals, one private surgical hospital and two private houses. The indications for the operation were: Disproportion between mother and child in 42 cases; fibroid tumors of the uterus delaying labor or making it impossible in 2 cases; eclampsia, 3 cases; melancholia, breech presentation of the fetus, absence of labor pains, 1 case. Of these patients 13 were multiparæ and 35 primiparæ. Of the multiparæ none died, while 11 of the 13 had lost children in previous labors, and hence consented gladly to the operation with the hope of saving the child. Of these operations 36 were celio-hysterotomy, 18 were celio-hysterectomy, 3 were Porro operations, and 1 postmortem incision.

The patients who were uninfected at labor numbered 39, and among these there was one death, making a mortality percentage of 2.6. The patient uninfected before labor and dying after delivery was a negro woman with contracted pelvis, who, after labor, had signs of peritoneal infection. The temperature remained low, but the pulse rose steadily. On autopsy the uterus was found healed and sterile, but a diffuse peritonitis was present, caused by the *Bacillus proteus vulgaris*. It was thought that this might have resulted from the use of infected catgut to close the peritoneum, but a sample of the gut, on bacteriologic examination, was found sterile. Among these patients there were six who were undoubtedly infected at the time of labor by septic infection. In these cases the site of infection was the intestinal tract in one, the uterine lining membrane and muscle in four, a Fallopian tube in one. Of these infected patients three recovered and three died. In each fatal case a thorough autopsy was made, with bacteriologic examination when indicated. The patients who recovered, although infected, had the Porro operation in two cases, while in one patient the uterus, tubes and ovaries were removed more than a year after the Cesarean section.

Three patients with eclampsia were delivered by abdominal sections. Of the children born in these cases none died who was in good condition at the time of operation. The total number of deaths of children in 48 cases was 8. Of these, four were dead before delivery was attempted; one, as already described, died after postmortem delivery, of eclampsia, two weeks later; one child, born at seven months, died several days after birth, from inanition; one died from inanition and failure to assimilate food, a week after birth; and one died of bronchopneumonia, resulting from influenza, ten days after birth. No child perished during or immediately after the operation who was living or in good condition when the operation was performed.

**26. Therapeutics of Retrodisplacement.**—Montgomery emphasizes: 1. The discovery of retroversion or retroflexion in a patient is not necessarily an indication for its treatment. 2. The symptoms usually attributed to such displacements are due to the complications rather than to the displacement, and, consequently, these complications must be considered in deciding as to methods of treatment. 3. Ventrosuspension and ventrofixation during the child-bearing period should give place to suspension of the uterus by its round ligaments, and preferably by author's combination of the Simpson-Gilliam operations. 4. Dependence should not be given to the shortening of the ligaments alone, but the complicating endometritis, metritis and relaxed pelvic floor should be combated by appropriate measures, in addition to the suspension described. 5. Prolapse, in addition to the reduction in the size of the uterus by amputation of the cervix, by restoration of the pelvic floor and shortening of the round ligaments, should be supplemented, when necessary, by shortening of the retrouterine structures.

**28. Lacerations of the Cervix Uteri.**—From an experience in 181 cases of immediate closure of the cervix, good union was obtained by Coles in about 88 per cent., fair union in 11 per cent., and no union in about 1 per cent. The position and involution of the uterus was improved by the operation. There was no case of infection that could be attributed to the sutures, and operation did not cause the patient any inconvenience. Would the danger of infection be less, he asked, if this tear were left open for five days or two months, and would the health of the patient be as good as with the immediate closure?

**30. Patients with Eclampsia Recovering without Delivery.**—Foulkrod presents the record of three patients as evidence of the fact that certain selected cases of eclampsia can be relieved either wholly or partially without rapid and forcible delivery, by expectant eliminative treatment; still further, that such treatment offers as good, and in certain cases better, opportunity for both mother and child. In these three instances the mother recovered from the eclampsia, and active treatment had ceased before labor came on. In one the child was born healthy and is still alive; in another the child was born living and died in a few days; in the remaining instance the child was stillborn.

**32. Dystocia from Congenital Cystic Kidney of Fetus.**—Lynch reports a case in which was observed a twin pregnancy presenting the unique feature of cystic kidney and hydronephrosis of size sufficient to cause an obstacle to the birth of the first child.

**34. Case of Traumatic Asemia.**—Da Costa reports the case of a man who, as the result of a head injury, could not express his thoughts, either in writing or with the signs that he was accustomed to employ. He could understand signs made by others, but could not understand writing. He was angered by his own failures in making signs and in trying to write, and expressed his anger and disappointment with gestures; and made many efforts to give vent to ideas, but succeeded in expressing only two words by signs, these words being mere automatic expressions, and utterly inappropriate and unmeaning as replies. This condition was apparently due to pressure on the third right frontal convolution, and passed away completely on the relief of pressure. There was no sign of its existence after the anesthetic was recovered from.

**35. Relation of General Surgeon to Gynecology.**—Fisher claims that the practice of gynecology is not all surgical, and that which is surgical is more readily recognized and the necessary operative work is usually best done by those who are engaged in the daily examination of patients by digital and bimanual methods and who have mastered the intricacies of a proper technic in pelvic and abdominal surgery adapted to gynecolcgic cases.

## American Journal of Surgery, New York.

*December.*

47 Tumors of the Larynx. J. F. Erdmann, New York City.
48 Appendicitis: General Observations, with Statistics to Date. F. W. McRae, Atlanta, Ga.
49 Intestinal Obstruction: Its Surgical Treatment. H. O. Walker, Detroit, Mich.
50 Syphilis of the Testicle. G. M. Muren, Brooklyn, N. Y.
51 Vesical Hematuria. L. Davis, Boston.
52 Cesarean Section in Country Practice. E. Lanphear, St. Louis.
53 *A New Method of Applying the Obstetric Forceps. J. A. Heatly, Schenectady, N. Y.
54 A Plea for Exploratory Incision in Suspected Depressed Fractures of the Skull. J. Wiener, New York.

**53. New Forceps Method.**—Heatly has used a method for over 15 years, for which he claims rapidity, safety and ease of performance; it is necessary to introduce only one hand, thus minimizing danger of infection and the forceps lock more easily. Everything being in readiness, forceps sterilized, patient prepared and anesthetized, the hands of the operator thoroughly disinfected, and the patient in the proper position, the operator, seated on a stool or chair with the forceps at hand, is ready to introduce the first blade. He passes the

left hand into and up in the vagina until the fingers touch the descending fetal head; then, taking the handle of the female blade (the left handle or right blade when forceps are locked) in his right hand, he passes the back of the blade along the palm of his left hand upward as far as necessary to include the head in the blades when locked. Then, by a turn or twist of the right wrist, the blade passes back of the head over the perineum and around to the opposite side of the fetal head (left side of the patient) into its proper place. The left hand still in the vagina, the remaining (male) blade is introduced very readily, the back of the blade being passed up along the palm of the left hand into its place. Then the blades are locked and delivery proceeds. In high operations the fingers are passed up until they lie between the inside of the uterus and the side of the head of fetus, then the forceps are introduced as described. If the operator is left-handed the operation is reversed.

### The Medical Fortnightly, St. Louis.

*November 26.*

55 *Inhibition of the Asthmatic Paroxysm. A. Abrams, San Francisco.
56 *Postmortem Report of a Case of Rupture of the Stomach Due to Gastromalacia. J. A. Hartmann, St. Louis.
57 Man with Whom You Must Live. A. L. Benedict, Buffalo.
58 Pubiotomy and its Relative Indications. E. B. Montgomery, Quincy.

55. **Inhibition of Asthmatic Paroxysm.**—Abrams claims that adrenalin subcutaneously only, is one of the most efficacious remedies for arresting a paroxysm of asthma. He employs the adrenalin chlorid solution (1 in 1,000) of which from 8 to 15 minims are injected. It is rarely necessary to repeat the dose. He has found it equally serviceable in many forms of dyspnea even when morphin was without effect.

56. **Rupture of Stomach Due to Gastromalacia.**—Hartman found the stomach collapsed, empty and markedly congested, its mucous coat was dark brown, there was an entire absence of rugæ; this even extending to its pylorus; its walls were very thin and slimy and were translucent when held to the light, showing an evident atrophy of the muscular coat. There were no evidences of gastric ulcers, past or present, but there was an irregular tear along the fundus, following the greater curvature and situated anteriorly to the gastro-splenic omentum; this was about four inches in length, the peritoneum was retracted from its edge, and at the edge the stomach wall was of the thickness of thin paper, and over the rest of the stomach was but slightly thicker. A chemical examination confirmed Hartman's opinion that death was due to the development of the condition by violence of diet. He was told that the deceased had not only used an acid diet, and that for a long time, but that she had been known to drink pure vinegar, and that at frequent intervals. Whether or not the rupture of the stomach occured before, at or after death, could not be determined. Hartman thinks that its cause may have been hemorrhage in the stomach, or an accumulation of gases. The presence of either may have occasioned her arising and going to the bathroom where, in falling, the stomach was ruptured, or the rupture might have occurred from the same cause even before she arose from her bed. He thinks it possible that there may have been a tear in the mucous membrane or that an artery ruptured in the stomach wall (the arteries being atheromatous) causing hemorrhage into the stomach, and that the weight of this blood and the effort of the stomach to get rid of it could have resulted in a rupture at the thinnest part, which in this case was at the fundus.

### Western Medical Review, Lincoln, Nebraska.

*November.*

59 *Dynamic Effects of Antipneumococcic Sera in Pneumonia. J. S. Welch, Lincoln.
60 *Treatment of Placenta Prævia by Cesarean Section. A. P. Condon, Omaha, Neb.
61 *Forty-Three Consecutive Cases of Typhoid Fever Treated by the Sulphate of Copper Plan. J. F. Stevens, Lincoln.
62 *Medical Fees in Country Practice. W. O. Bridges, Omaha.

59. **Antipneumococcic Sera in Pneumonia.**—Welch summarizes his paper as follows: 1. The dynamic effects of antipneumococcic sera in pneumonia are so slight as to seem of no importance. 2. The toxemia and pneumococcic septicemia remain apparently unaltered by the use of the sera.

60. **Treatment of Placenta Prævia by Cesarean Section.**—Condon reports two cases of placenta prævia centralis in which he performed a Cesarean section successfully. He concludes that: 1. In placenta prævia centralis, when the child is alive and viable, the procedure indicated is Cesarean section. 2. The life of the unborn babe, when viable, is as much to be thought of as that of the mother. 3. The operation of Cesarean section can be done more quickly than dilatation, version and extraction. 4. The danger of a ruptured uterus and uncontrollable hemorrhage can be better overcome by section. 5. An obstetrician should not attempt a version unless he is capable of doing a Cesarean section.

61. **Typhoid Fever Treated by Sulphate of Copper.**—The treatment of the cases reported by Stevens consisted in the systematic use of sulphate of copper. A patient was placed on two-drop doses of a 6 per cent. solution of sulphate of copper in one-half glass of water every two hours, day and night. In case the stomach proved intolerant the dose was reduced to one drop in one-half glass of water every two hours. It occasionally happened that it was necessary to reduce the dose still more, making it only one-half drop once in two hours. The drops of a 6 per cent. solution contain about ¼ grain of the sulphate. In point of fact the majority of the patients could take about one drop every two hours. Patients who were seen during the first two or three days of the onset of the disease received large colonic flushings of sulphate of copper solution once in three hours for two days. In these injections 5 grains to the quart were used. If this proved irritant, a less quantity was to be used in subsequent flushings. If the tongue became dry, which it seldom did, the copper solution was moderately acidulated with sulphuric acid.

The diet was uniformly buttermilk, a glass once in four hours. Between the buttermilk Stevens sometimes permitted soups to be given, carefully prepared, skimmed and strained. Fruit juices were invariably given following somewhat the desire of the patient as to which particular one. Tomato juice, a wineglassful every two hours or three, in the majority of cases proved to be very acceptable and certainly very beneficial. The temperature was reduced when necessary by general sponging and ice-bags to the abdomen. General nursing measures were instituted as individual cases demanded. When the disease abated, temperature became normal, tongue cleared, patient became bright, with conditions generally pointing to the immediate nearness of convalescence, the copper was dropped and the patient given 1/240 of a grain of strychnin once in three or four hours. After the temperature had been normal about eight or ten days the pulp of a baked apple, a little rice, tapioca, soft-boiled eggs, junket, blanc mange, etc., was gradually introduced into the diet until perfectly normal conditions called for the food of health. This entire list of cases was characterized by an evenness that was very gratifying.

62.—This article appeared in THE JOURNAL, Oct. 6, 1906, page 1085.

### American Journal of Orthopedic Surgery, Philadelphia.

*October.*

63 *Intermittent Limping (Myasthenia Angio Sclerotica). R. W. Lovett, Boston.
64 *Treatment of Faulty Weight-Bearing in Weak and Flat Feet. R. B. Osgood, Boston.
65 Simplest Mechanical Method of Treating Coxitis and Its Results. Lorenz, Vienna.
66 *Effect of Pressure on the Curve and Rotation of the Spine. R. Soutter, Boston.
67 Congenital Deformity of the Spine, Etc. J. J. Clarke, London.
68 Cure of Congenital Pseudoarthrosis of the Tibia by Periosteal Transplantation. A. Codivilla, Bologna.
69 Was Percival Pott Really Entitled to the Honor of Having a Certain Spinal Disease Called by His Name? A. J. Steele.
70 Double Congenital Equino-Varus in Twins. J. T. Rugh, Philadelphia.
71 Defect of Both Femoral Heads in a Chondrodystrophic Dwarf. A. H. Freiberg, Cincinnati, Ohio.
72 *Simple Method of Correcting Pigeon-Toe or Inward Rotation of the Thighs. R. T. Tayler, Baltimore.
73 Simple Method of Recording the Torsion in Lateral Curvature. E. H. Braford, Boston.

63. **Intermittent Limping.**—Lovett reports three cases each illustrative of a type of this affection: 1. A young man with general arteriosclerosis or obliterating arteritis resulting in gangrene. 2. A man past middle age without conspicuous arterial change recovering from arterial obstruction. 3. A

woman with a venous rather than arterial disturbance more amenable to treatment than the other two cases. The treatment of absolute rest until the circulation is restored seems the safest course to pursue.

**64. Faulty Weight Bearing in Weak Feet.**—The conclusions drawn by Osgood from observation of five clinics, three of them covering a period of several years, are as follows: 1. A rigid arch supporter worn for several months, while relieving symptoms in the majority of cases, weakens the foot and tends to make the wearer dependent on it. 2. The prolonged use of such rigid supports in the great majority of cases is unnecessary, if proper treatment is administered at the appropriate time. 3. The aim of the surgeon should be to strengthen the weak structure, and not simply temporarily to relieve symptoms. 4. In the cases of simple weak foot the calcaneo-astragaloid articulation demands most attention. 5. In severe cases of long standing, operative measures may be more commonly employed and offer lasting relief. He says that the exercise treatment of weak feet is rational and desirable, although it is much neglected in private work, and practically unemployed in most hospital clinics.

A very simple and effective foot exerciser can be made from a piece of plank about a foot square with a light depression in which the heel rests. Screw hooks are placed at appropriate places on the edges, a webbing strap, to which a stout hook is sewn, is placed about the foot just back of the great toe joint. A wire string from 2 to 3 inches long is caught by one end to the hook in the plank edge and by the other to the hook in the webbing strap. By changing the insertion of the spring, resistive foot exercises may be taken in inversion, eversion, dorsal and plantar flexion and curling the toes. For dorsal flexion a block is added in order to gain more height from the floor for full plantar flexion. For plantar flexion an arch of stout wire with a loop in it for the attachment of the spring is inserted into two holes in the plank and allows the pull from above. While the spiral spring does not furnish the most perfect physiologic resistance, the appliance gives the patient a definite object, and accomplishes more than exercises without apparatus.

**66. Effect of Pressure on Curve and Rotation of Spine.**—As the result of 94 experiments made on two cadavers Soutter concludes that for the correction of high rotary curves, vertical positions may be employed advantageously; especially when the lower portion of the spine should not be affected by the treatment. For correcting rotation in which more correction is desired in front, supine position is most advantageous. For correcting rotation in which more correction is desired behind, the prone position is more advantageous. Head pull is especially helpful for high rotation sitting when a vertical position is desired. Suspension with toes touching is especially good for equal correction of both high and low rotation at the same time. A lying position is the most advantageous for getting the maximum correction with a minimum force. In the treatment of scoliosis it is desirable to have definite data on which to base the principles to be employed. The experiments proved, among other things, that rib pressure is capable of being utilized as a therapeutic measure in scoliosis.

**72. Method of Correcting Pigeon-Toe.**—The device employed by Tayler consists of a snug-fitting muslin pelvic band lacing in front, and on each side, about one or two inches below and posterior to the situation of the anterior superior spines of the ilia, are sewed buckles obliquely. This band is to be pinned with safety pins to the underskirt. Two strips of surgeon's adhesive plaster 1¼ inches wide and from 4 to 6 inches long, have a piece of felt 1½ inches square and a buckle sewed on one end of each. These adhesives are then stuck on the back of the calf of each leg in a spiral manner so that the buckle and felt come to lie on the posterior inferior aspect of each internal condyle of the femora. The apparatus is completed by means of a piece of non-elastic webbing which is fastened in the two blocks on each leg following the direction of the sartorius and buckled sufficiently tight to effect the desired amount of outward rotation, preferably when the child is recumbent.

## Chicago Medical Recorder.

*November 15.*

74 Running Ear and the Immediate Cure of Mastoid Suppuration. B. Holmes, Chicago.
75 Neurotic Vesical Retention of the Urine. E. N. Layton, Chicago.
76 *Lymphosarcoma of the Pharynx, Limiting the Motions of the Jaws and Axis by Invading the Prevertebral and Pterygomandibular Spaces. O. T. Freer, Chicago.
77 Neuritic Type of Progressive Muscular Atrophy. A. Church, Chicago.
78 Roentgen diagnosis of Nephrolithiasis. M. Reichmann, Chicago.
79 Management of the Second and Third Week of the Puerperium. H. Worthington, Oak Park, Ill.
80 Management of the Third Stage of Labor. M. White, Chicago.
81 *Irrigation and Drainage of the Seminal Duct and Vesicle Through the Vas Deferens. W. T. Belfield, Chicago.

**76. Lymphosarcoma of Pharynx.**—Freer reports the case of a boy, aged about 14, with defective hearing, who began to snore in his sleep and to have gradually increasing difficulty in breathing through his nose, so that in the course of some weeks he had to keep his mouth open at all times to breathe. In spite of the suspiciously rapid development of this mass, its gross appearance so closely resembled that of a hypertrophied pharyngeal tonsil that it was deemed such and thoroughly removed with the pernasal forceps through the nose, perfect nasal respiration being established. Nasal breathing had remained perfect until two months after the operation, when the snoring and nasal obstruction reappeared, but never became so marked as before. The removal of the growth was followed by a discharge from the left ear, which has existed ever since. There was no improvement in the deafness at any time. Since the operation he has had occasional nosebleed, occurring about once in two weeks, the blood in some of these attacks flowing down behind the palate. He declined rapidly in strength and weight and had headache with vomiting in the morning at times. He began to notice difficulty in opening his jaws and in swallowing, symptoms which had persisted with increasing intensity ever since.

The tumor has a diffuse growth and infiltrates, the deeper parts out of proportion to its very moderate encroachment on the cavity of the pharynx. This infiltrative character of the tumor did not show itself until its return after its removal a year ago, as the first appearance of the neoplasm, deceptively resembled a large adenoid growth, had an entirely superficial character and occupied the site of the pharyngeal tonsil. On its recurrence the morbid growth not only reproduced in part the tumor in the nasopharynx, but directed its growth into the posterior pharyngeal wall, in this respect also occupying a region favored by outlying portions of adenoid vegetations. The character of the tumor had changed and instead of confining itself to the mucosa as does a lymphoid hypertrophy, it entered beneath it deeply into the submucous and muscular tissues behind and at the sides of the pharynx. The depth to which it infiltrates this region is shown by the patient's inability to rotate his head freely, to open his jaws more than half way, and by the fulness in the hollow behind the ramus of the jaw.

81.—This article also appeared in *Surgery, Gynecology and Obstetrics* for November, 1906.

## Virginia Medical Semi-Monthly, Richmond.

*November 9.*

82 Appendicostomy. S. McGuire, Richmond.
83 Hydrorrhea Gravidarum. D. L. Field, Jeffersonville, Ind.
84 Artificial Dilatation of the Cervix and Os Uteri—Indications and Methods. G. T. Harrison, York, N. Y.
85 Necrosis of Inferior Maxilla Complicating Typhoid Fever. W. P. C. Hazen, Washington, D. C.
86 Passive Hyperemia in the Treatment of Tubercular Synovitis of Knee, and in Infected Contusions and Lacerations of Palm, with Fracture of the Third Metacarpal Bone. H. C. Wyman, Detroit, Mich.
87 Cure of Cystocele. C. R. Robins, Richmond.
88 Lymphatic System in Its Relation to Disease. W. L. Pepe, Richmond.
89 Ambulatory Treatment of Intracapsular Fracture of Neck of Femur. S. Harnsberger, Catlett, Va.
90 Case of Serpiginous Ulcer. W. H. Ribble, Jr., Wythville, Va.
91 Operative Treatment of Deviated Septa. R. H. Wright, Richmond.

## The Medical Fortnightly, St. Louis.

*November 10.*

92 Interesting Problems in Ear, Nose and Throat Practice. R. Barclay, St. Louis.
93 *Metabolic Aspects of Over-Feeding and of Under-Feeding. R. W. Webster, Chicago.

94 *Surgical Principles and Theories. F. F. Lawrence, Columbus, Ohio.
95 *Clinical Psychology. F. P. Norbury, Jacksonville, Fla.

93.—See The Journal, Nov. 24, 1906, page 1761.

94, 95.—See The Journal, Dec. 8, 1906, page 1944.

### American Journal of Obstetrics, New York.
*November.*

96 *Diagnosis and Surgical Treatment of Injuries to the Diaphragm. J. Y. Brown, St. Louis, Mo.
97 *Kidney and Colon Suspension by Use of the Nephrocolic Ligament and Gerota's Nephrocolopexy Capsule. H. W. Longyear, Detroit.
98 *Technic of Kidney Fixation. J. H. Carstens, Detroit, Mich.
99 *Porro-Cesarean Section for Pregnancy, with Complicated Fibroids. J. F. Baldwin, Columbus, Ohio.
100 *Uterine Fibroids Complicating Pregnancy. M. Rosenwasser, Cleveland.
101 *Abdominal Section for Trauma of the Uterus. C. E. Congdon, Buffalo.
102 *The Rectum in Its Relation to Diseases of Women. H. O. Pantzer, Indianapolis.
103 *Trend of the Times in Appendicectomy. N. S. Scott, Cleveland.
104 *Points Commonly Contested in the Diagnosis and Treatment of Appendicitis. J. Price, Philadelphia.
105 *Chronic Dyspepsias Resulting from Pelvic and Abdominal Diseases, and Their Surgical Treatment. H. E. Hayd, Buffalo, N. Y.
106 *Intestinal Obstruction Due to Gallstones. M. F. Porter, Ft. Wayne, Ind.
107 *Points in the Diagnosis and Treatment of Accidental Hemorrhage. A. H. Wright, Toronto.
108 *Abuse of Purgatives. E. Walker, Evansville, Ind.
109 *A Consideration of the Factors Which Have Lowered the Operative Mortality and Have Improved the Postoperative Results. X. O. Werder, Pittsburg.

96, 102, 103, 104, 105.—See The Journal, Oct. 20, 1906, page 1324.

97, 98.—See The Journal, Sept. 29, 1906, page 1044.

99, 100, 101.—See The Journal, Oct. 6, 1906, page 1127.

106, 107, 108, 109.—See The Journal, Oct. 13, 1906, page 1219.

### The Alienist and Neurologist, St. Louis, Mo.
*November.*

110 Coitus Interruptus and Coitus Reservatus as Causes of Profound Neuroses and Psychoses. D. S. Booth, St. Louis.
111 Non-Reason Founded Phobias of Neurasthenia. C. H. Hughes.
112 Erotic Symbolism. (To be continued). H. Ellis, Carbis Water, Lelant, Cornwall, England.
113 Illinois Legal Procedure in Marriage Annulment for Prior Insanity. J. G. Kiernan, Chicago.
114 Is Specialism a Psychic Advance or a Retrogression? H. C. B. Alexander, Chicago.
115 Psychiatry and Neuriatry in the Medical Press. C. H. Hughes, St. Louis.
116 Mixoscopic Adolescent Survivals in Art, Literature and Pseudo-Ethics. (To be continued). J. G. Kiernan, Chicago.
117 Psychologic Studies of Man's Moral Evolution. (To be continued). A. S. Ashmead, New York.

### Detroit Medical Journal.
*November.*

118 *Future of the Medical Profession. C. W. Eliot, Cambridge, Mass.
119 *Unity of Medical Sciences. W. H. Welch, Baltimore.

118, 119.—See The Journal, Oct. 6, 1906, page 1115.

### New York State Journal of Medicine.
*November.*

120 Clinical Considerations of Acute Glandular Affections. M. W. Ware, New York.
121 Are Preservatives in Food Injurious to Health? E. E. Smith, New York.
122 Observations Regarding Variola and Vaccinia. J. D. Mars, Florida, N. Y.
123 Biologists in Public Schools, an Aid to Morals and Prosperity. H. C. Putnam, Providence, R. I.
124 History of the Medical Society of the State of New York. J. J. Walsh, New York.

## FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

### British Medical Journal.
*November 24.*

1 The Past of Dermatology in Edinburgh. N. Walker.
2 *Action of Salicylates in Acute Rheumatism. R. Stockman.
3 Recognition of Myelopathic Albumose in the Urine. T. R. Bradshaw.
4 *Rheumatic Fever and Amyloid Degeneration. J. M. Beattie.
5 *Myomectomy During Pregnancy and Labor at Term in an Elderly Primipara. A. Doran.
6 Congenital Laryngeal Stridor. D. R. Paterson.
7 *Unusual Case of Papilloma of the Larynx in a Child Treated by the Local Application of Formalin. A. Bronner.
8 Treatment of Uremia. E. Le Fevre.
9 Opsonins and Bacterial Vaccines. G. W. Ross.
10 *Action of Drugs in Vascular Hypertension. T. L. Coley.
11 Working Bulletin System for the Collective Investigation and Classification of the Newer Materia Medica. F. E. Stewart.
12 Drug Fallacies. W. E. Dixon.
13 Action of Drugs on the Uterus. A. R. Cushny.
14 *Alcohol as a Therapeutic Agent. A. D. Blackader.
15 *Id. R. J. Meltzer.
16 *Teaching of Materia Medica and Pharmacology. J. T. Halsey, T. McCrae and C. R. Marshall.
17 *Id. J. B. Bradbury.
18 Subperiosteal Abscess of the Forehead. V. Delsaux.
19 Laryngeal Disturbances Produced by Voice Use. M. Hunt.
20 Inflammatory Nasal Obstruction as an Etiologic Factor in the Production of Sputum. W. P. Porcher.
21 Thyrotomy and Laryngectomy for Malignant Disease of the Larynx. C. Jackson.
22 Congenital Stridor (Laryngeal and Tracheal). A. L. Turner.

**2. Salicylates in Acute Rheumatism.**—Stockman says that there can be no reasonable doubt that compounds of salicylic acid, or substances from which it can be formed in the body, have a specific action against the poison of acute rheumatism. It is evident that salicylates in acute rheumatism frequently exert an action too feeble to cut short that disease satisfactorily and this is most apparent when the inflammation is seated in the fibrous tissues connected with the muscles and joints, or in the valves of the heart.

**4. Rheumatic Fever and Amyloid Degeneration.**—Beattie reports four cases in which a necropsy was performed in support of the statement that acute rheumatism is a bacterial disease.

**5. Myomectomy During Pregnancy.**—In the case reported by Doran two subserous pedunculated growths springing from the posterior aspect of the inferior uterine segment, close to the left border of the uterus, were removed through an abdominal incision. The patient was 35 years of age, and carried the child to term. The child was saved and reared.

**7. Unusual Case of Papilloma of Larynx.**—Bronner's case is interesting and instructive from several points of view: 1. The sudden growth of the papilloma, probably after an acute attack of laryngitis. 2. The initial growth was large, pedunculated, not multiple, and situated below the vocal cords, and not on the cords, as in most cases. 3. The papillomata on the cords only appeared after the use of forceps. Was this due to traumatism and infection? 4. After the local application of formalin there was no recurrence.

**10. Action of Drugs in Vascular Hypertension.**—Coley concludes that the action of a drug on the normal circulation is not paralleled in cases of circulatory disease. Further, that the routine use of iodids of potassium or sodium will produce no effect in cases of marked hypertension. Arsenic may be of value in certain cases of arteriosclerosis of plethoric type, but more of its general than for its depressant action on the blood pressure. Among drugs, those increasing elimination are most logically employed. In many cases of hypertension the increased pressure is physiologic and should not be interfered with. The use of aconite or veratrum viride is scarcely justifiable for the purpose of reducing pressure, and if employed the cardiac strength must first be ascertained by a careful study of the systolic and diastolic pressure.

**14. Alcohol as a Therapeutic Agent.**—Blackader says that from the standpoint of a physician it appears that alcohol may be employed as food, replacing the carbohydrates and conserving proteid metabolism, in fever and in some other conditions associated with exhaustion of the nerve centers or an inability to digest or appropriate other nutriment. It places no task on the digestive organs, on the contrary, if used carefully it increases their secretion, thus favoring the digestion and absorption of other foods. In such conditions it may also have a favorable action on the hepatic cells, stimulating them to increased activity. Alcohol is not an efficient cardiac or respiratory stimulant to be used for long periods. In some conditions associated with a determination of blood to the interior of the body alcohol may be of considerable service by dilating superficial vessels and equalizing the circulation. In infections of all forms, alcohol should be used cautiously. Its action is dependent to a great extent on the condition of the gastric mucous membrane and portal circulation. Its employment demands much discrimination and careful and frequent observation.

15. **Id.**—Meltzer is of the opinion that the facts as they are known to-day are favorable to a judicious use of alcohol in disease. The vast experience of medical men proves that it does no harm to patients. The great majority of the clinicians who employ it in disease are convinced that it is beneficial to the patient. There are reliable experiments on record showing that alcohol supports the development of immunity in experimental infections. Recent experiments show that alcohol is capable of moderately stimulating the heart, and also of increasing blood pressure moderately. The main value of the influence of alcohol in disease with regard to the circulation is its activity in the direction of correcting the dangerous distribution of blood. Alcohol does not depress the vitality, but stimulates the inhibitory mechanism of the neuromuscular system, and thus assists the diseased body in obtaining the necessary mental and bodily rest. Alcohol assists in covering the expenditure of energy of the diseased body, and protects its tissues from breaking down. In health alcohol may be a poison, but in disease it is a beneficent drug. May we get rid of its misuse in health, and may we get rid of the opposition to it in disease.

16. **Teaching of Materia Medica and Pharmacology.**—Halsey suggests that materia medica and pharmacology should be studied after the student has completed his courses in chemistry and physiology. Careful selection as regards quantity to be taught and insistence on exact and complete study of this limited amount will give the best results. Didactic lectures, quizzes, demonstrations and laboratory exercises should all be used as methods of teaching. The value of practical work in dispensing and in study of drug actions is very great. The teacher of materia medica and pharmacology should constantly keep before himself and his students the practical bearing of these subjects on his field of future activity. Students and their future patients will never obtain the best results of the study of these subjects until the clinical teachers fulfill their obligation to show the student how to apply and make full use of his knowledge of drugs, their properties and their actions.

17. **Id.**—Bradbury says that the student's knowledge of therapeutics should not be tested until the end of his medical curriculum, when a separate examination should be given on prescriptions, dietetics, and the action of remedies in special diseases.

### The Lancet, London.
*November 24.*

23 Evolution of the Streptococci. F. W. Andrewes.
24 History of the Study of Clinical Medicine in the British Islands. W. Moore.
25 Reciprocal Relations Between Affections of the Uterus and Its Appendages and the Rest of the Body. T. Wilson.
26 *Description of a Heart Showing Gummatous Infiltration of the Auriculoventricular Bundle. A. Keith and C. Miller.
27 Thirty-three Consecutive Hysterectomies. W. H. Richards.
28 Case of Myelopathic or Splenomegalic Polycythemia. F. P. Weber.
29 Two Cases of Perforated Gastric Ulcer Successfully Operated on. D. Macartney.

26. **Heart Showing Gummatous Infiltration.**—The heart of the man, whose case is reported by Keith and Miller, was reduced to the following condition: The superior vena cava was completely destroyed; the coronary sinus was involved in a cicatrix; the sinus of the left auricle formed a cicatricial ring; the interauricular and part of the interventricular septum formed a cicatricial lamina; the commencement and upper half of the main auriculoventricular bundle were completely destroyed, and the coronary arteries were partially occluded. Yet with the complete separation of the musculature of the auricles and ventricles there had been only passing syncopal attacks some thirteen years before, which was probably the date at which the auriculoventricular bundle was first invaded by the infiltration. There were no signs of heart failure, and there were no urgent symptoms of insufficiency of the heart's action.

### Glasgow Medical Journal.
*November.*

30 A Plea for the Study of the Deaf Child and for the Teaching of Speech of the Semi-Deaf and Semi-Mute. J. K. Love.
31 Diffuse Hyperplastic Laryngitis and Pharyngitis of Congenital Syphilis. A. B. Kelly.
32 *Arteriovenous Aneurism of the Neck Caused by Gunshot Wounds. A. Young.

32. **Arteriovenous Aneurism of Neck.**—Young reports a case of aneurismal varix of the innominate artery and one of arteriovenous aneurism at the root of the right carotid which exemplifies the fact that the non-adoption of active surgical intervention in such lesions may be advised with all confidence, and with every hope of the patient attaining, by means of natural or spontaneous cure alone, to a very real and substantial degree of comfort and usefulness.

### Dublin Journal of Medical Science.
*November.*

33 Bacterial Diseases in Plants. F. O'B. Ellison.
34 *Use and Abuse of Alcohol. R. J. Kinkead.

34. **Use and Abuse of Alcohol.**—Kinkead says that alcohol prevents that perfect coördination of mental and bodily functions of energy and activity, which we sum in the term "being fit."

### Indian Medical Gazette, Calcutta.
*November.*

35 Surgery of the Lung, with an Illustrative Case. L. G. Fink.
36 Is Calcutta Seven-day Fever a Form of Dengue? J. W. D. Megaw.
37 Operation of Optico-Ciliary Neurectomy. R. H. Elliot.
38 Epidemiology of Plague. J. A. Thompson.

### Presse Médicale, Paris.

39 (XIV, No. 88.) *La nature du cancer et de la cachexie cancéreuse. Debove.
40 Technique de l'amputation du sein (of breast). J. L. Faure.
41 *La névrose d'angoisse (anguish neurosis). P. Hartenberg.
42 (No. 89.) Recherches expérimentelles sur les poisons cancéreux. Girard-Mangin and H. Roger.
43 (No. 90.) Technique de la cure opératoire de l'ectopie testiculaire. E. Forgue.
44 Effects of Large Projectiles from Battle Ships.—Souvenirs de la bataille de Tsoushima. J. J. Matignon.
45 Les hémorrhagies de l'appendice vermiforme. M. Letulle.
46 (No. 91.) *La colique vésiculaire (from gall bladder). A. Gilbert.
47 Résection totale des saphènes variqueuses. M. Guibé.

39. **Nature of Cancer.**—Debove believes that the organism manufactures its own parasite. The organism is composed of cells which have at the same time an independent and a collective existence as part of the whole. If some of the cells refuse to obey the laws of the collective existence, developing without further regard to the organism as a whole, they become actual parasites, and, unless they can be overcome by the phagocytes—which are the police of the organism—or are removed by the knife of the surgeon, they are liable to proliferate indefinitely, and cancer is the result. Migrating cells from the central colony are liable to start daughter colonies at almost any point; these are the metastases of the malignant growth. The resulting general disturbance, which we call cancer cachexia, is merely the result of interference with the proper functioning of certain organs or the obstruction of certain passages or opening the door to superposed infection. Cancer is thus anarchy on the part of some of the cells.

41. **Anguish Neurosis.**—The anguish does not differ from that of any morbid dread except by its intensity and its tenacity. There is generally a chronic state of anxiety with attacks of acute paroxysmal anguish and phobias. It is essentially an over-irritability from over-excitement of the emotional system. Neurasthenia is the malady of fatigue, while an anguish neurosis is morbid distress. They are frequently combined, but in the pure form of the anguish neurosis the patient does not experience depression nor fatigue, nor backache nor dilatation of the stomach. Of all the various remedies tried for this condition, Hartenberg has found potassium bromid most effectual in doses of from 2 to 4 gm. a day, taken in the middle of a meal. This with hydrotherapy and avoidance of stimulating foods and drinks generally cured the patients in from two to four weeks. When associated with neurasthenia, the main point in treatment is to cure the exhaustion of fatigue.

46. **Gall-Bladder Colic.**—Gilbert applies the term vesicular colic to the pain attendant on efforts of gallstones in the gall bladder to pass into the biliary passages. The ordinary methods of treatment with cholagogues, mineral waters, etc., are seldom beneficial, but he has obtained uniformly good results with absolute rest in bed, exclusive skimmed milk diet, taken in small, frequent amounts, administration of seda-

tives, permanent application of moist heat to the region of the gall bladder, and strict avoidance of purgatives and cholagogues, completing the treatment with enemas or suppositories if need be. This technic prevents the alternations of emptiness and fulness characteristic of the normal functioning of the gall bladder. A continuous gentle flow of bile, with the gall bladder kept perfectly quiet, affords the best conditions for rapid subsidence of the symptoms.

### Revue de Chirurgie, Paris.

*Last indexed, page 2042.*

48 (XXVI, No. 10.) *De l'appendicite chez le nourrisson (in nurslings). E. Kirmisson and M. Guimbellot.
49 *Cas de tumeurs multiples des os sans albumosurie (multiple myelomata in bones). Devic and L. Beriel.
50 Variété rare de hernie inguinale interstitielle. E. Galzin.
51 *Etude du cancer du rectum. Bon Traitement. M. Du Pan. (Commenced in No. 8.)
52 L'inflammation des diverticules intestinaux ou diverticulite. L. Cahier. (Commenced in No. 9.)

**48. Appendicitis in Infants.**—Kirmisson reports a case of acute appendicitis in an infant of 11 months. About sixty hours after the first symptoms the appendix was removed, but the child did not survive the day. Kirmisson has found 25 similar cases on record, 9 in infants under 12 months and 17 in the second year. Out of the total number, 19 of the children died and 7 recovered; all of the latter were over 18 months of age. Appendicectomy was done in 19 cases, with recovery in 7, and the deaths of 5 of the 12 children over a year old. The evolution of appendicitis in infants is exceptionally rapid and the prognosis grave. The only children who recovered were those operated on at once. In one case a pin was found in the appendix, in another soft matters, and in 7 there were fecal or chalky concrements in the appendix. In the 12 cases in which the particulars are known, all were bottle babies except 3. Meat had never been given in any instance, which is an argument against meat as a factor in the etiology of appendicitis. Differentiation from ordinary gastroenteritis is difficult. Invagination was diagnosed in 4 or 5 of the cases and strangulated hernia in another. The child commences to scream, has one or two bilious vomitings, with fever, the abdomen tense and painful, and the pulse rapid, but the most striking symptom is the complete stoppage of stools and flatus. If it were not for the fever, invagination would be the first thought. The diagnosis was made only at the autopsy in the children under a year old, and it is possible that many children pass through an unrecognized appendicitis which proves mild and from which they recover. As the child screams constantly, it is difficult to determine any one point more painful than another. The onset may be gradual or sudden.

**49. Multiple Primary Tumors of the Bones.**—The patient in Devic's case was a man of 68. Tumors developed on the sternum, ilium and spine, and he succumbed in about a year. The urine was examined frequently for albumose with negative results. These primary multiple tumors seem to form a group of neoformations of bone-marrow nature, whatever the aspect of the cells constituting them. If the term myeloma is applied, it should be used to designate all these typical and atypical tumors, distinguishing them from secondary tumors —which may likewise be multiple—and from alterations of the lymphadenic type associated with lesions of the spleen and ganglia.

**51. Cancer of Rectum.**—Du Pan gives the particulars of 35 cases in which an operation was performed before 1890 and 48 since then, 17 treated by making an artificial anus and 15 absolutely inoperable cases. The communication issues from Kocher's clinic at Berne. In the first group of 35 patients, 7 survived from 10 to 23 years after the operation, and 5 for more than five years. In the last group of 48 cases, 20 of the patients have been permanently cured to date, and 18 have succumbed to metastases, while in 10 male patients succumbed during or soon after the operation. In the total material of 123 cases of cancer of the rectum, only 33 of the patients were women. Heredity could be incriminated in 8.75 per cent. and direct heredity in 3.75 per cent. Hemorrhoids had preceded the cancer in only 10 per cent. of the cases, and habitual constipation was known in only 2 patients. Most of the patients had ascribed to hemorrhoids the small hemorrhages observed at times. This was the case even with a physician who failed to connect them with cancer until his attention was attracted to his progressive emaciation and weakness. He did not apply for digital examination until the tumor had reached a considerable size and had invaded the perirectal glands. Irregularly shaped stools and alternation of diarrhea and constipation are important signs. High cancers do not induce pain nor tenesmus like those nearer the anus. In one case the ileus and pains, the only symptoms, were ascribed to appendicitis, and the appendix was removed, although it was found normal. The persisting symptoms were then treated with massage, when mild peritonitis developed, which subsided under cold applications. The patient continued to grow thinner and weaker, and finally another physician was consulted five months later, when digital examination revealed the rectal cancer. In another case a cancer of the breast accompanied the cancer in the rectum, both with primary characteristics. In 19 out of the last series of 48 cases, the patients had been treated for diarrhea, constipation or hemorrhoids for from two to six months before the rectum was examined. It is certain, Du Pan comments, that if physicians would make a point of digital examination of the rectum in all cases of chronic intestinal troubles or anal hemorrhages the chances for a permanent cure of cancer would be much increased. If the cancer is very high it may sometimes be brought into view if the patient stands and strains as at stool. The indications and technic for operative treatment are discussed in detail.

### Deutsches Archiv f. klinische Medizin, Leipsic.

*Last indexed, page 2044.*

53 (LXXXVIII, Nos. 1-3.) *Klinische Beobachtungen über den Wert der Bestimmung der wahren Puls-Grösse (Puls-Druck-Messung) bei Herz und Nieren-Krankheiten (blood pressure in heart and kidney disease). B. Fellner, jun.
54 Einfluss von Blutdruckschwankungen auf die Konzentration des arteriellen und venösen Blutes (influence of variations in blood pressure on concentration of blood). W. Erb, jun.
55 Size and Position of Normal Heart and Its Dependence on Physiologic Conditions.—Ueber Grösse und Lage des normalen Herzens. H. Dietlen.
56 Changes in Conductibility of Urine in Presence of Albumin.—Veränderung der Leitfähigkeit des Harnes bei Anwesenheit von Eiweiss. A. Wassmuth.
57 *Beiträge zur funktionellen Nieren-Diagnostik (of kidneys). H. F. Grünwald.
58 Ueber den Herpes sexualis. Rettmann.
59 Secretion of Gastric Juice and Motor Processes in the Fundus and Pylorus Parts of the Stomach.—Saftabsonderung und Bewegungsvorgänge im Fundus- und Pylorusteil des Magens. K. Sick.
60 *Ueber Harnsäureausscheidung bei Gicht und Alkoholismus (uric-acid elimination). L. Poliak.
61 *Threefold Value Percussion of the Heart on the Cadaver.—Die Schwellenwertsperkussion des Herzens an der Leiche. A. Simons.
62 *Zur Frage der perkutorischen Darstellung des gesamten Vorderfläche des Herzens (percussion of total anterior aspect of heart). F. Moritz.
63 *Die Perkussion der wahren Herzgrenzen (true limits of heart outline). H. Dietlen.
64 Determination of Acidity of Urine by Amount of Primary Phosphates.—Verhältnis der Acidimetrie des Harnes nach Moritz zu dem Verfahren von Freund-Lieblein. W. Völker.
65 Beziehungen von Proteus- und Typhus-Agglutininen zueinander (relations between agglutinins). S. Abeles (Prague).

**53. Diagnostic Importance of Separating the Systolic from the Pulse Pressure.**—Fellner comments on the importance of what he calls enlarged sphygmomanometry in the diagnosis of heart and kidney diseases. By distinguishing between the tension (the systolic pressure) and the size (pulse pressure), many contradictions between the measurement of the blood pressure and clinical observation are explained away, and many changes in the condition of the circulation are elucidated. It reveals characteristic changes in the functioning of the heart and kidneys, suggests their cause and records the progress of the case under the influence of treatment. He has been studying the subject on 150 patients, making over 600 measurements, and here relates a few examples out of each group of affections. The measurements were made with the Riva-Rocci instrument, using a cuff 6 cm. wide, and following the Strasburger technic.

**57. Functional Kidney Tests.**—Grünwald has been studying the response of the kidneys to ingestion of water, to saline infusion and to diuretics, especially in regard to the difference

of the response in parenchymatous and in interstitial nephritis. The kidney with a parenchymatous affection reacts much more readily to stimuli than the contracted kidney. In parenchymatous nephritis a tendency to respond like the sound kidney is unmistakably evident, while the contracted kidney shows no attempt to increase the amounts of urine or to vary the specific gravity under the tests. It is evident that a parenchymatous affection is more liable to be favorably affected by treatment than a contracted kidney.

**60. Elimination of Uric Acid in Gout and Alcoholism.**—Pollak's experiments showed that alcoholic subjects eliminate uric acid after ingestion of 20 gm. of nucleic acid with the same tendency to retention and delay in elimination hitherto considered pathognomonic of gout. A healthy person eliminated the first day 0.558 gm.; a patient with gastric ulcer, 0.425 gm.; a gouty patient, only 0.198, and 3 hard drinkers from 0.055 to 0.387 gm.

**61 to 63. Percussion of the Outline of the Heart.**—Simons' communication issues from Berlin, but the other two are from Moritz' medical clinic at Giessen, the birthplace of "orthodiagraphy." They are illustrated with numerous diagrams. Dietlen analyzes the findings in examining 231 patients by orthodiagraphy, by ordinary loud percussion, and by Goldscheider's threshold percussion. The latter is percussion just at the audible limit, and requires absolute stillness in the environment to be reliable.

**Deutsche medizinische Wochenschrift, Berlin and Leipsic.**

66 (XXXII, No. 44.) *Presence of Syphilitic Antibodies in the Cerebrospinal Fluid of Paralytics.—Vorhandensein syph. Antistoffe in der Cerebrospin.-Flüssigkeit von Paralytikern. A. Wassermann and F. Plaut (Berlin).
67 Ueber atypische Aktinomykose. M. Litten and F. Levy.
68 *Zur Differential-Diagnostik zwischen Nierenerkrankungen und Perityphlitis (between kidney affections and appendicitis). A. Schlesinger.
69 Elektromedikamentöse Therapie. G. Heüman (Göteborg).
70 *Ueber Tuberculose der Mamma. Geissler.
71 Ueber willkürliche Erweiterung der Pupillen (voluntary dilatation). E. Bloch.
72 *Abdominal Contusions.—Zur Diagnostik der schweren Bauchquetschungen; ihre Indikation zur Laparotomie. K. Schmidt.
73 Healing of Wound After Pubiotomy.—Heilung der Wunden nach Giglischem Schambeinschnitt. A. Schelb. (Concluded.)
74 *Apparatus for Corporal Measurements.—Ueber Körpermessungen. Stephani.

**66. Syphilitic Antibodies in Cerebrospinal Fluid of Paralytics.**—Wassermann and Plaut have been applying the hemolytic biologic test in 41 cases of paralysis, and report that with 32 out of the 41 patients mixture of the cerebrospinal fluid with an extract of the livers and spleens of syphilitic fetuses resulted in an unmistakable arrest of hemolysis. The extract alone and the fluid alone had no effect on the hemolysis, but the combination checked it. The same lumbar fluid mixed with extract from the livers and spleens of non-syphilitic fetuses did not affect the hemolysis, as was also observed with the cerebrospinal fluid from 19 patients free from syphilitic taint. These results demonstrate the presence of specific antisubstances in the lumbar fluid of the majority of paralytics, and testify that these individuals have or have had syphilis. The specific antigen was seldom encountered in their cerebrospinal fluid, merely the reactionary product, the antibody. (See editorial on this test in THE JOURNAL, Nov. 22, 1906, page 1832.)

**68. Differentiation of Kidney and Appendix Affections.**—Schlesinger reports a number of cases from Israel's surgical service in which differentiation between nephritis and appendicitis was extremely difficult. He has frequently had occasion to observe the appearance of red corpuscles, fresh or emptied of their contents, in the urine in cases of appendicitis, although Tuffier claims that this a sign exclusively of nephritis. In certain cases of nephritis, intestinal phenomena mask the trouble in the kidneys. In one instance recurring attacks of what was diagnosed as appendicitis occurred several times during eight years. The attack began with pains in the penis and right buttock, pain in urinating and tenesmus. As soon as the pain grew more intense there was retention of urine and stool, intense abdominal pain spreading to the right lumbar region and hip, with vomiting. After urination the pains subsided. During the last attack the pains spread to the right costal arch and afterward there were "stitches" in the right leg. The attacks lasted for from four to ten hours. Of the four physicians consulted some diagnosed appendicitis and others a nervous affection. Israel diagnosed a stone in the ureter, and this diagnosis was confirmed by the *x*-rays. Since removal of the stone the patient has been free from all disturbances. Israel was confident that the disturbances in urination could not be the result of appendicitis alone. Chronic appendicitis can cause some urinary disturbance, but not so severe as in the case described. He has never observed radiation of the pain to the buttock, hip and penis except with an extraperitoneal cause. The shadow on the screen might have been cast by a fecal concretion in the appendix, but its size and density rendered this improbable. Notwithstanding the long duration of the trouble the urine was normal. In other cases appendicitis was differentiated principally by the radiation of the pain into the leg, and the recovery after appendicectomy confirmed the diagnosis. In another case pains in the ileocecal region radiating into the testicles were accompanied by pain when urinating. There was moderate local tenderness and the urine contained no morphologic elements. The kidneys were not palpable nor tender. Israel was inclined to suspect a concrement in the kidney, but during his absence appendicectomy was done during a recurrence. The patient a few months later had an attack of unmistakable kidney colic with the passage of a stone. It is a question whether the appendix had been responsible for the previous attacks or whether they had been manifestations of the existing nephrolithiasis. The latter frequently simulates ileus or other gastrointestinal affection. Israel knows of an instance where an attack of kidney colic accompanied by obstipation and vomiting was treated at another clinic by making an artificial anus. The fact that the kidneys were the source of the trouble in the case last reported is indicated, he thinks, by the slight changes found in the appendix, by the irritation of the bladder, the radiation of the pains to the testicles and the assertion of the patient that the attack of kidney colic resembled in every respect the pain previously experienced.

**70. Tuberculosis of the Mamma.**—The three patients were each between 50 and 60 years old when they noted a lump in the breast. It was removed without further disturbance, and the microscope revealed tuberculosis. Geissler discusses the differential diagnosis, asserting that a nodule in the breast before puberty is always of syphilitic origin—that only 4 cases are on record of actinomycosis of the breast, and that the right breast is more frequently affected than the left in case of a tuberculous process.

**72. Abdominal Contusions.**—Schmidt analyzes 4 cases from his experience, urging the importance of immediate laparotomy when the abdominal walls are rigid and there is local tenderness after a contusion, and when these symptoms display a tendency to increase rather than to subside. There is more shock when the injury is from an object acting on a large expanse of the abdomen rather than from the kick of a horse or the like. Normal temperature and full pulse do not exclude serious internal injury, and there was no vomiting in one of the most severe cases. Cautious percussion may reveal dulness corresponding to an effusion of blood, bile, stomach or intestine content or urine, and its progress can be thus traced in some cases, but the rigidity of the abdominal walls frequently renders percussion impossible.

**74. Apparatus for Measuring the Body.**—The apparatus described consists of a chair with foot rest and straight back. The foot and arm rests are adjustable to fit the proportions of the person, and slide on a graduated standard. Small horizontal bars, also sliding on the standard, are adjusted to show the height of the shoulders and top of the head. The apparatus registers a host of details useful for identification and in school inspection.

**Jahrbuch f. Kinderheilkunde, Berlin.**
*Last indexed, page 1980.*

75 (LXIV, No 4.) *Ueber induzierte Krankheiten (Imitations-Krankheiten). J. Schoedel (Chemnitz).
76 Die Lymphdrüsen (lymph glands). N. Gundobin (St. Petersburg).
77 Zur Chemie des Blutes der Neonatorum (chemistry of blood). E. Schiff. (Concluded.)

78 Ueber endemische Kretinismus und dessen Zusammenhang mit anderen Formen von Entwicklungsstörung (relations with other forms of disturbance in development). T. Dieterle (Basle). (Concluded.)

75. **Imitation Affections.**—Schoedel describes a school epidemic of shaking of the hands and arms rendering writing impossible, affecting 21 out of 35 children in two rooms. He reviews the history of similar epidemics, accepting the influence of mere imitation as the cause. The first cases occurred after an account in the papers of a similar epidemic in a neighboring town, and the other cases followed among those children who could see over the shoulders of the affected children and watch their writing. Isolation has been generally employed in such epidemics, but the results were better when no attempt at isolation was made and the children were given treatment with the faradic stream with a current as strong as they could tolerate. This put an end to the epidemic in from eight to ten days. With isolation and the closing of the schools, sometimes from eight to ten weeks elapse before such an epidemic is finally stamped out. The children in his charge dreaded the electric treatment. He thinks that hysteria and simulation can both be excluded in these "imitation affections."

## Monatsschrift f. Geb. und Gynäkologie, Berlin.

*Last indexed, page 1602.*

79 (XXIV, No. 4.) *Age of Fetus.—Wert der Merkmale zur Bestimmung der Reife des Neugeborenen. E. Holzbach.

80 Ueber eine besondere Beckenform und über Ovarial-Befunde bei Osteomalacie. L. Goth.

81 Ueber Nerven und ernährende Gefässe im Nabelstrang (nerves and vessels in umbilical cord). A. Goenner.

82 Ein klassicher Fall von Chorionepithelioma malignum. A. Czyzewicz and W. Nowicki.

83 Totaler Uterus-Prolaps im 16 Lebensjahre (at age of 16). H. Sutter.

84 Myoma uteri; Carcinoma uteri; Galvano-Cauterisatio uteri; Cystoma ovarii; Ovariocystitis ex pedunculo torquato. L. Gelpke.

85 *Erfolge und Misserfolge der Atmokausis uteri (successes and failures with steam cauterization). H. Fuchs (Dantsic).

86 *Operating on Diabetics.—Prognostische Bedeutung des Diabetes mellitus bei op. Eingriffen. K. Thorbecke.

79. **Signs of Age of Fetus.**—Holzbach reviews the various signs that determine whether a child is born before or at term. The length is an important sign; children more than 50 cm. tall being generally "ripe," but children less than 50 cm. in length are not necessarily "unripe." The same rule applies to the weight; over 3 kg. indicates that the infant has reached term. The condition of the cartilages, nails, lanugo and genitalia is not conclusive either way. In 18 out of 30 premature children the finger nails were found well developed and hard, requiring cutting in 7. The placenta weighed on an average 541 gm. in 97 children born at term, and only 449 gm. with 19 premature infants. Comparison should not be made with a normal child, but with parts of the fetus that develop with variable rapidity at different months of intrauterine existence according to the supply of blood. The liver grows exceptionally fast during the first six months, then the upper half of the body, especially the brain, owing to the abundant supply straight from the left ventricle. During the latter half of pregnancy the conditions of the blood supply alter in favor of the lower part of the body. The proportional size and weight of the different parts is an index, therefore, of the age of the fetus. The circumference of the shoulders compared with the horizontal circumference of the head is an important sign, as the circumference of the shoulders never surpassed that of the head in 30 out of 31 cases studied, and only equalled it in 2. Holzbach urges study of the subject on a large scale, owing to its medicolegal importance in suits to establish paternity.

85. **Steam Cauterization of the Uterus.**—Fuchs has applied this method of treatment in 150 cases and has never witnessed the slightest harm from it. The patients were cured in 88.2 per cent. of the cases, which is a larger proportion of cures than is credited to any other method of arresting preclimacteric hemorrhage, which is its special field. He has had opportunity to examine the uterus removed afterward in 5 cases on account of cancer, showing the fine results obtained with the steam cauterization. It is important to apply the steam from above downward and to leave untouched a zone extending 1 cm. above the internal os, as this can be readily reached by the curette. The menopause comes on gradually, without clinical symptoms, after the simple process of curetting followed by cauterization with steam at from 115 to 120 C. for from ten seconds to one minute. Hundreds of patients have been treated by this combination of curetting and steam, *Abrasio-Atmokausis*, and generally with the best results.

86. **Operations on Diabetics.**—Thorbecke's experience and analysis of 128 publications on the subject have demonstrated that the entire organism and the urine should be carefully examined, and the limits of tolerance estimated to determine the form and degree of the diabetes, and that the patient should be restricted to an antidiabetic diet until the proportion of sugar in the urine is reduced to the minimum. Careful psychic preparation of the patient and family (the latter being instructed as to the dubious prognosis) is important to reduce the moral shock of the operation. In case of a laparotomy, purgatives, irrigations and enemas should be restricted as much as possible, but nourishment should be amply and promptly provided; sodium bicarbonate should be given as a prophylactic, with saline infusion before and after the operation. The thermocautery should take the place of the knife wherever possible to obviate dangerous hemorrhage, and the briefest technic should be selected. The choice of the anesthetic should be determined by the complications on the part of other organs. More than 4 gm. of ammonia in the urine is a direct contraindication to general anesthesia. Only one case has been reported in which spinal anesthesia was used, and this was in a very severe case and coma followed. As the sugar affords a favorable culture medium for pathogenic germs, antisepsis and asepsis must be scrupulously observed.

## Münchener medizinische Wochenschrift.

87 (LIII, No. 42.) *Production of Atypical Proliferation of Epithelium and Origin of Malignant Tumors.—Die experimentelle Erzeugung atypischer Epithelwucherungen und die Entstehung bösartiger Geschwülste. B. Fischer.

88 *Displacement of Larynx and Trachea in Various Thoracic Affections.—Verlagerung des Kehlkopfs und der Luftröhre bei verschiedenen Erkrankungen der Brustorgane. H. Wichern F. Loening.

89 *Das Aorten-Aneurysma auf syphilitischer Grundlage und seine Frühdiagnose. Saathoff.

90 Ueber Gas-phlegmone. R. Rothfuchs.

91 *Zur Technik der Haut-Transplantation nach Thiersch. O. Waljaschko.

92 *Behandlung frischer Wunden mit durch Wärme zum Austrocknen gebrachten Verbänden. E. Asbeck.

93 *Zur Frage der Hebotomie. L. Seitz.

94 Zur Kasuistik der congenitalen Hernien der Linea alba. Klaussner.

95 Darm-Okklusion durch Murphy's Knopf nach Pylorus-Resektion. H. Doerfler.

87. **Experimental Production of Proliferation of Epithelium.**—See editorial in THE JOURNAL, Nov. 10, 1906, page 1566.

88. **Displacement of Larynx and Trachea in Thoracic Affections.**—Wichern and Loening write from Curschmann's clinic to report a number of cases in which the displacement of larynx and trachea gave the clue for the diagnosis. The displacement may be due to pressure from a tumor or effusion or it may be the result of traction from shriveling processes. It may be the first sign to call attention to an aneurism of the aorta. It was pronounced in 4 cases observed in the clinic, as also in 4 of sarcoma in the mediastinum. In one of the latter cases the trachea seemed to be in the median line, but the *x*-rays showed slanting of the longitudinal axis, and palpation revealed that it was unusually close to the jugular vein on one side. The fossa between the trachea and the sternocleidomastoid muscle was also shallower on this side. In 3 cases the displacement was the result of considerable pleuritic effusion, and in 5 it was the result of pneumothorax. In differentiating a cavity in the lungs it is important to bear in mind that the displacement would be toward the cavity on account of contractions and shriveling, while the displacement with a pneumothorax would be toward the opposite side. In one case reported, the percussion and auscultation findings suggested partial pneumothorax on the right side, but the pronounced displacement of the trachea and larynx toward the same side indicated a large cavity. In another case the findings suggested relics of a pleuritic process, interstitial pneumonia and bronchiectasia in the lower, rear part of the left lung. The heart was displaced with the trachea toward the left, indicating considerable cicatricial shriveling.

**89. Early Diagnosis of Syphilitic Aneurism of the Aorta.**—Saathoff affirms that the aortic disturbance ought to be diagnosed in its incipiency and not be allowed to progress to the stage of actual aneurism formation. He is convinced that the essential process is located in the vasa vasorum. The primary lues of the vasa vasorum induces a proliferating vasculitis followed by formation of granulations and obliterating vasculitis. The wall of the vessel becomes partially transformed into sclerotic connective tissue, which yields to the pressure, and an aneurism results. The wall of the aorta shows a diffuse thickening and spreading, and the patients may complain of oppression in the chest, pains radiating into one or both arms, and sometimes enlargement of the vessel trunk can be detected by percussion. Roentgen examination is generally decisive. Aortic insufficiency in the comparatively young—so long as arteriosclerosis can be reasonably excluded—without preceding articular rheumatism or endocarditis, points strongly to syphilitic aortitis. Prompt treatment will ward off the otherwise inevitable aneurism. Participation of the aortic valves occurs only when the process is located in the ascending aorta, but this is usually the case. Aortic insufficiency was evident in 6 out of the last 7 cases of syphilitic aortitis in Saathoff's experience, and on this ground an incipient aneurism of the aorta was diagnosed and found in the 3 that came to autopsy. When there is a history of syphilis and the aortic valves are found to be insufficient and the Roentgen rays show enlargement of the aorta, mercurial treatment should be instituted without delay, and it has every chance to prove an effectual prophylaxis of aneurism.

**91. After-Treatment of Thiersch Flaps.**—Waljaschko applies the flaps without allowing them to lap. He then covers them with a single layer of thin gauze, projecting out over the sound skin, and fastened by a ring of collodion around the edge of the wound. This gauze is left undisturbed for ten or twelve days. The other dressings are applied over this layer of gauze and are changed as desired, without disturbing the single layer below, through which the flaps and the progress of the healing can be inspected. He has found this technic extremely satisfactory.

**92. Treatment of Fresh Wounds with Heated Dressings.**—Asbeck relates his remarkable success in treating fresh wounds, burns and the like by applying a compress of iodoform gauze, without previous disinfection of the wound unless much soiled. A few layers of mull are then covered with cotton and the whole fastened with a mull bandage. The dressed part is then exposed to great heat for from thirty to forty-five minutes. The wound is kept dry thereafter except when necessary to moisten the inner layer to remove it. When the dressings are renewed the part is again exposed to heat. He has treated in this way over 500 patients since he has settled at Harburg, his first experiences being with Chinese steerage passengers who were constantly burning each other with their bowls of boiling rice soup. The tropical sun or the fires under the boilers supplied the heat. His results have been equally excellent in his latest series. The technic renders disinfection of the wound unnecessary unless it is visibly soiled, and thus does away with the destructive action of disinfectants and the softening of the surrounding region and washing of germs into the wound. The secretions dry and provide a bacteria-proof cover for the wound which prevents entrance of germs from without, while the development of the germs already present in the wound is inhibited by the heat. Another advantage is the hyperemia thus artificially induced in the part. In 11 instances he treated a bullet wound in this way, without seeking for the bullet. There was no suppuration, and after the wound had healed he easily removed the bullet under the *x*-rays by an aseptic operation.

**93. Eleven Pubiotomies.**—Seitz discusses the experiences at von Winckel's clinic at Munich. They show that even when the birth passages are already infected pubiotomy can be successfully done, with a favorable outcome for both mother and child. The danger for the mother increases with the extent of the injuries, consequently in future he does not intend to do this operation in a primipara with already infected birth passages if there is danger of extensive injury either from excessive contraction of the pelvis, a very large child or unfavorable presentation. On the other hand, with multiparæ with wide genital passages and not too great misproportion between the size of the head and of the pelvis, he thinks that pubiotomy might be done even with existing infection of the birth passages. The sawing must be done by some technic that prevents the infected genital secretions from finding their way into the pubiotomy wound. The operator must avoid all contact with the genital secretions or control the course of the needle in the vagina with gloved hands, removing the glove afterward. The bone generally unites again with a pseudo-arthrosis, but this seldom does harm. With aseptic genital passages in multiparæ, with a conjugata vera not less than 7 cm., the simple operation is most excellent in its results and will certainly restrict the field of Cesarean section, artificial premature delivery and perforation of a living child, although not abolishing them entirely. On the other hand, febrile disturbance of the puerperium is more frequent with it as also thrombosis; it is not always possible to avoid injury to the bladder and vagina, and the part is liable to be painful for a long time afterward when the patient takes long walks or does hard physical labor. Fatalities can not always be avoided, and on the whole he warns against recommending the operation for general adoption as yet.

### Virchow's Archiv, Berlin.

*Last indexed, page 2045.*

96 (186, No. 1.) Rickets in Italy.—Statistische Beiträge zur Frage nach der Verbreitung und Ätiologie der Rachitis. R. Pfister.

97 Fall von blind endigendem Ureter mit cystischer Vorwölbung in die Harnblase, kombiniert mit Cystenniere derselben Seite. R. Borrmann.

98 Origin of Blood Plates.—Entstehung der Blutplättchen. J. H. Wright (Boston).

99 Wax-like Transformation of Muscle Fibers.—Ueber die wachsartige Umwandlung der Muskelfasern. R. Thoma.

100 *Cystitis caseosa. R. Kimla (Prague).

101 *Tuberkulöses Granulations-Gewebe ohne Tuberkel (without tubercles). J. Orth.

102 Meteorismus und Reflexe. K. von Miram.

**100 and 101. Caseous Cystitis.**—Kimla remarks that since Virchow's description, in the sixties, of tuberculosis of the bladder, our knowledge of tuberculous changes in this organ has made but little progress. He thinks that a number of gaps need to be filled, and makes an attempt in this line by describing some cases of tuberculous cystitis distinguished by a purely inflammatory process terminating in total caseous degeneration of the entire region involved. It occurs in patches, discrete or diffuse, without formation of tubercles. The process is similar to that of caseous pneumonia. Orth takes exception to Kimla's statements, quoting from his own writings to show that he long ago described cases of diffuse granulation without formation of tubercles or development of giant or epithelioid cells, which reveals its tuberculous character finally by the caseous changes and destruction entailed.

### Hospitalstidende, Copenhagen.

*Last indexed XLVII, page 902.*

103 (XLIX, Nos. 30 to 33.) *Om den Bier'ske Stase-hyperæmi-behandling og dens Anvendelse ved traumatiske Lidelser (artificially induced hyperemia in treatment of traumatic affections). C. Wessel.

104 *Ydertige Erfaringer med Hensyn til Behandlingen af Necse-deformiteter med Paraffin-Injektioner. P. T. Hald.

105 Sandel-olie som Emulsion ved Gonorré. A. Brönnum.

106 4 Tilfælde af Friedreichs Tabes. V. Christiansen.

107 Om Neuroglia-farvning (stain). Wimmer.

108 (No. 34.) *Om Erytema nodosums Ætiologi. A. Brönnum.

**103. Artificially Induced Hyperemia in Treatment of Traumatic Affections.**—Wessel is convinced that Bier's method of stasis hyperemia is destined to fill an important place in the treatment of accidental injuries. He relates his experience with it in 20 cases, expatiating on the guiding principle that the elastic band must never induce pain, but, in case of existing pain, relieve it. In treatment of effusions, either in joints or tissues, of acute or chronic synovitis in a joint or tendon, of sprains and the like, he has been very much pleased with the results. In many traumatic affections of the legs or arms, with intact skin, he knows of no means of treatment which approaches the Bier technic in simplicity and efficiency. His experience has further demonstrated that his confidence in this method of treating fractures was well grounded. It avoids the development of atrophic processes, saves the trouble of massage and averts ankylosis. It is also proving the best of

all treatments for somewhat stiff joints. Its action in arresting pain is supplemented by the way in which it hastens absorption, nourishment and regeneration. Wessel learned in 1892 that sprains and contusions on the leg or arm are traditionally treated among the Danish peasantry by tying a tight bandage above to arrest the pains. Headache is also treated by tying a tight band around the neck. According to the accessible literature, however, he believes that he is the first to apply the stasis hyperemia in the treatment of fractures, for which he believes it to be exceptionally adapted and beneficial. He also found it efficient in promoting the absorption of a traumatic and very painful keloid on the finger. Twelve applications of the constricting band in the course of fourteen days resulted in the complete disappearance of the keloid. He applies the constricting band for twenty-two hours every day or so at first, in case of fracture, during the second week on alternate days, and during the third week every third day. A number of his patients had gonorrheal arthritis, which he treated by applying the constricting band every day for from twenty to twenty-four hours, relieving the pain at once.

**104. Paraffin Injections for Deformities of the Nose.**—Hald has had extensive experience in this line and states that in the 12 cases on record in which blindness or impaired sight in one eye has followed injection of paraffin for cosmetic purposes, in 10 of the cases the melting point of the paraffin was 43.3 C. or under, while not a single instance of injury is known from the use of paraffin not melting under 50 C.

**106. Etiology of Erythema Nodosum.**—Brönnum had occasion to observe the occurrence of erythema nodosum in two brothers after diphtheria, also in two brothers in another family. The affection was primary and developed in each boy with only a day's interval. These facts and certain other features of erythema nodosum point to an infectious origin, he thinks.

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*Last indexed XLVI, page 207.*

109 (XXIX, No. 6.) Destruction of Anthrax Bacilli in Guinea-pig Organism.—Sulla distruzione dei bacilli del carbonchio nell'organismo della cavia. A. Donati.

110 Sulla produzione cellulare nelle encefaliti sperimentali. F. Vanzetti and U. Parodi.

111 Sul processi infiammatorii delle membrane sinoviali. P. Sisto.

112 *La rigenerazione delle fibre nervose. A. Perroncito.

113 Stab Wounds in Nasal Cavity.—Studio delle ferite penetranti nelle cavita nasali. S. Pusateri.

114 Is Specialism a Psychic Advance or a Retrogression? H. C. pensation). C. Gennari.

115 Studio del carcinomi del pancreas. E. Grimani.

116 Fistula of Thoracic Duct in Relation to Morphology of Blood. —Della fistola del dutto toracico in rapporto alla morfologie del sangue. U. Parodi.

117 (XXX, No. 1.) *Dell'azione di alcuni sieri citotossici sugli organi ematopoetici (action of cytotoxic serums on blood-forming organs). P. Foa (Turin).

118 Contributo sperimentale alla genesi della cistite cistica. R. Giani.

119 Una epidemia di dissenteria nella provincia di Pavia. A. Negri and D. Pane.

120 Divisione verticale totale dell' "os zygomaticum" nel cranio umano. B. Nicola.

121 Foreign Bodies in Nose.—Ricerche sperimentali sul comportamento del corpi estranei nelle cavita nasali. S. Pusateri.

122 Sulla produzione di agglutinine e di anticorpi comuni ad alcuni sieri-carbonchiosi, all II, Vaccino e al carbonchio virulento (anthrax). A. Donati.

**112. Regeneration of Nerve Fibers.**—Perroncito's article is accompanied by three large colored plates, showing with remarkable distinctness the process of regeneration after a nerve has been severed. He has been studying the subject for years and, independently, reached conclusions identical with those of Ramon y Cajal and Marinesco, although he thinks that much less time is required for the initiation of the processes than the other writers assign to it. He describes it in detail as observed principally on the sciatic nerve of the dog.

**114. Failure in Cardiac Compensation.**—The 9 cases related by Gennari demonstrate that excellent compensation may be maintained for a time even with serious lesions, while in other cases waning compensation may occur with comparatively trifling lesions. Compensation may fail completely even with mere fatty degeneration of the fibers as the sole lesion in the myocardium, or even without any appreciable anatomic changes. He concludes from the facts observed that interstitial inflammation of the heart is merely a symptom of failing compensation. Research should be directed in this line, the abnormal contractions of the fibers possibly inducing hitherto ignored chemical phenomena.

**117. Action of Cytotoxic Serums on Blood-Forming Organs.**—Foa's article describes researches on rabbits and other animals to determine the influence of the cytotoxic serums on the blood marrow and on other blood-forming organs. He was impressed with the variations in the reactions presented by different species of animals. This should warn against hasty generalizing from the effects observed in one species. Among the most interesting results he records is the mononuclear activity displayed by certain hemolytic and leucotoxic serums, and the prevailing lymphocytic character assumed by the spleen, the lymphatic glands and the bone marrow under the action of splenotoxic serums. The article is accompanied by colored plates.

## Books Received

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interests of our readers.

A Text-Book of Pharmacology and Some Allied Sciences (Therapeutics, Materia Medica, Pharmacy, Prescription-writing, Toxicology, etc.), together with outlines for Laboratory Work, etc. By W. T. Sollman, M.D., Professor of Pharmacology and Materia Medica in the Medical Department of Western Reserve University, Cleveland, Ohio. Second edition, thoroughly revised and enlarged. Cloth. Pp. 1070. Price, $4.00 net. Philadelphia: W. B. Saunders Company, 1906.

A Text-Book on Pathogenic Bacteria, for Students of Medicine and Physicians. By J. McFarland, M.D., Professor of Pathology and Bacteriology in Medico-Chirurgical College, Philadelphia, with 190 illustrations, a number of them in colors. Fifth edition, thoroughly revised. Cloth. Pp. 647. Price, $3.50 net. Philadelphia: W. B. Saunders Company, 1906.

Immediate Care of the Injured. By A. S. Morrow, A.B., M.D. Attending Surgeon to the Workinghouse Hospital, and to the New York City Home for the Aged and Infirm. Fully illustrated. Cloth. Pp. 340. Price, $2.50 net. Philadelphia: W. B. Saunders Company, 1906.

Practical Materia Medica for Nurses, with an Appendix, Containing Poisons and Their Antidotes, with Poison-Emergencies, etc. By E. A. M. Stoney. Third Edition, thoroughly revised. Cloth. Pp. 300. Price, $1.50 net. Philadelphia: W. B. Saunders Company, 1906.

Atlas and Text-Book of Dentistry, Including Diseases of the Mouth. By G. Preiswerk, M.D., Ph.D. Authorized Translation from the German. Edited by G. W. Warren, A.M., D.D.S. Cloth. Pp. 343. Price, $3.50 net. Philadelphia: W. B. Saunders Company, 1906.

Atlas and Text-Book of Human Anatomy. By J. Sobotta, Professor of Anatomy in the University of Würzburg, edited with additions. By J. P. McMurrich. Vol. II. Cloth. Pp. 194. Price, $6.00 net. Philadelphia: W. B. Saunders Company, 1906.

Twenty-Fourth Annual Report of the State Board of Health of Indiana, for the Fiscal Year Ending October 31, 1905, and Statistical Year ending Dec. 31, 1905. To the Governor. Cloth. Pp. 402. Indianapolis: W. B. Burford, 1906.

Medical Electricity. A Practical Handbook for Students and Practitioners. By H. L. Jones, M.A., M.D., Fifth Edition with illustrations Cloth. Pp: 519. Price, $4.00 net. Philadelphia: P. Blakiston's Son & Company, 1906.

Animal Micrology, Practical Exercises in Microscopical Methods. By M. F. Guyer, Ph.D., Professor of Zoölogy in the University of Cincinnati. Cloth. Pp. 240. Price, $1.75. Chicago: University of Chicago Press, 1906.

Walsh's Physicians' Combined Call-Book and Tablet. Monthly Form. Thirtieth edition. Flexible Leather. Price, $1.50. Washington, D.C.: Published by Ralph Walsh, M.D., 1824 H St., N. W.

Abdominal Pain, Its Causes and Clinical Significance. By A. E. Maylard, M.B., B.S. Second Edition, revised. Cloth. Pp. 301. Price, $2.50 net. Philadelphia: P. Blakiston's Son & Company, 1906.

A Manual of Pathology. By G. McConnell, M.D., Pathologist to St. Louis Skin and Cancer Hospital, etc. Flexible Leather. Pp. 523. Price, $2.50. Philadelphia: W. B. Saunders Company, 1906.

A Manual of Normal Histology and Organography. By Charles Hill, Ph.D., M.D. Illustrated. Flexible Leather. Pp. 462. Price, $2.00 net. Philadelphia: W. B. Saunders Company, 1906.

Health Talks About Children, A Plea for the Child, by J. Grimshaw, M.D., B.S. Second Impression. Paper. Pp. 83. Price, 40c. Philadelphia: P. Blakiston's Son & Company, 1906.

Elements of the Science of Nutrition. By G. Lusk, Ph.D., M.A., F.R.S. Illustrated. Cloth. Pp. 326. Price, $2.50 net. Philadelphia: W. B. Saunders Company, 1906.

The Practitioner's Visiting List for 1907. Thirty Patients per Week. Flexible Leather. Pp. 192. Price, $1.25. Philadelphia: Lea Brothers & Co.

Baby-Craft, or Just What to Do for the Baby. By A. B. Stockham, M.D. Paper. Pp. 47. Price, 25c. Chicago: Stockham Publishing Co.

Parental Rights and Economic Wrongs. By Virginia M. Butterfield. Paper. Pp. 92. Price, 50c. Chicago: Stockham Publishing Co.